Jl S. Afr. Bot. 39 (2): 141–178 (1973)

A REAPPRAISAL OF TYPE AND AUTHENTIC SPECIMENS OF BASIDIOMYCETES IN THE VAN DER BYL HERBARIUM, STELLENBOSCH

DEREK A. REID

(*Royal Botanic Gardens, Kew*)

This paper is an account of type or authentic specimens of those species of Basidiomycetes other than Uredinales and Ustilaginales described by P. A. Van der Byl and which are preserved in his herbarium at the University of Stellenbosch, STE. However, Van der Byl was in the habit of sending material for naming to C. G. Lloyd at Cincinnati, U.S.A., who based many new species on Van der Byl's collections. In most instances duplicated material of the collections sent to Lloyd are preserved in the Van der Byl herbarium and these too have been studied and described in this paper. It sometimes happened that Lloyd first printed his new taxa as *nomina nuda* in lists of determinations in replies to correspondents, published in his Mycological Writings as "Letters". Arising from this and the delay in publishing the descriptions of these new taxa it occasionally resulted in Van der Byl publishing the validating description prior to Lloyd's own account, e.g. as in *Daedalea fuscospora* Lloyd *apud* Van der Byl, *Polyporus glaucoporus* Lloyd *apud* Van der Byl, *Hydnum longospinosum* Lloyd *apud* Van der Byl, and *Guepinia agariciformis* Lloyd *apud* Van der Byl. In such instances Van der Byl presumably based his descriptions on the material available to him in his own herbarium and hence it seems reasonable to regard these collections as holotypes.

In this paper the genera are treated alphabetically as are the species within each genus except that the single species of *Polystictus*, i.e. *P. glaucoeffusus* Lloyd, is placed in the sequence of species of *Polyporus* and hence immediately precedes *Polyporus glaucoporus* Lloyd *apud* Van der Byl to which it is closely related. For every species the original diagnosis is reproduced, followed by my own observations. However, in those instances where both Lloyd and Van der Byl published accounts of the same taxa these have been combined such that the original data are followed by those of the subsequent author in round brackets. This was thought desirable as Lloyd's diagnoses were inclined to be brief and in need of supplementation.

Submitted for publication November 1971.

During the present study difficulty was sometimes experienced with the numbering of Van der Byl's specimens. For example in the case of *Polyporus rusticus* described by Lloyd in Mycol. Notes 53, p. 751, 1918, Van der Byl (1922) observed "Single collection from pine stump at Klapmuts, C.P.—(Cotype in Natal Herbarium, P.v.d.B. No. 387)" yet the specimen in his herbarium bears exactly the same collection data but is numbered 285. It frequently happened that while the collection data agreed with that published in Van der Byl's original diagnosis the numbers of the specimens in STE were different, e.g. the number of the type collection of *P. flexilis* Van der Byl was published as 810 yet the specimen in STE bears the number 894 and both were collected at Pietermaritzburg. Again with *Polyporus ochroporus*, Van der Byl emphasises that there was only a single collection from "a stump in Eastern Cape Forest Conservancy. Type in Natal Herbarium No. 115" yet the specimen in STE from Eastern Cape bears the number 130. These discrepancies appear to be due to a partial renumbering by Van der Byl of his herbarium when it was moved from Durban to Stellenbosch. Usually there is a specimen bearing the published number in PRU and a supplementary note on these collections will appear in due course.

ACKNOWLEDGEMENTS

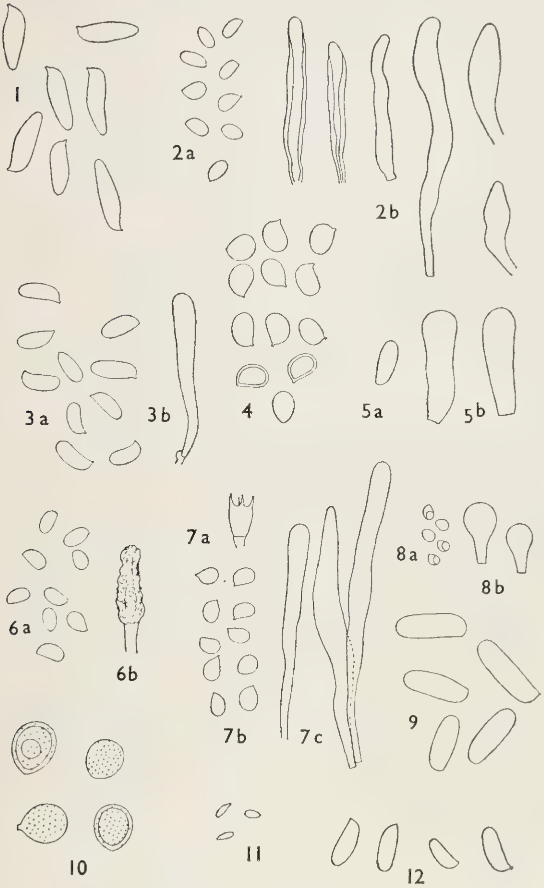
The author has great pleasure in thanking the trustees for the award of the Smuts Memorial Fellowship which made this work possible. He also wishes to thank Prof. E. A. Schelpe, University of Cape Town, who was responsible for suggesting and helping to organize my visit to South Africa to study the Basidiomycete Flora. Grateful thanks are also due to Prof. P. G. Jordaan, Head of the Dept. of Botany, University of Stellenbosch, for allowing me to work in his department and study the specimens in the Van der Byl Herbarium in his care, and also for his permission to publish this paper in English. It is also a pleasure to acknowledge the help and many kindnesses shown to me by Dr. J. G. Smith and the other members of the staff of the Botany Department of the University of Stellenbosch, as well as the associated members of the Department of Agriculture and in particular by Mr. Hugh Taylor.

AGARICALES

BOLETACEAE

Boletus stellenbossiensis Van der Byl in S. Afr. J. Sci. **22**, 167, 1925. (Fig. 1.)

"Plants stipitate; pileus firm, convex to expanded, 12 cm to 18 cm diam., 2 cm to 2,5 cm thick, upper surface glabrous, yellow to yellowish-brown, cracking into characteristic irregular areas; context cream to yellowish-brown in herbarium specimens, 2 mm to 1,5 cm thick, soft to hard; tubes up to 2 cm



Figs. 1–12.

Fig. 1 *Boletus stellenbossiensis*—spores. Fig. 2 *Lentinus natalensis* (a) spores (b) cystidioles. Fig. 3 *Lentinus phillipsii* (a) spores (b) basidium. Fig. 4 *Daedalea fuscospora*—spores. Fig. 5 *Daedalea ligneo-texta* (a) spore (b) immature basidia. Fig. 6 *Daedalea rhodesiaca* (a) spores (b) encrusted cystidium. Fig. 7 *Fistulina africana* (a) basidium (b) spores (c) elements from pore mouth. Fig. 8 *Polyporus acaciae* (a) spores (b) capitate cystidioles. Fig. 9 *Polyporus argenteofulvus*—spores. Fig. 10 *Polyporus confragosus*—spores. Fig. 11 *Polyporus durbanensis*—spores. Fig. 12 *Polyporus glaucoporus*—spores. (All × 866.)

long, approximately 2 to the mm, dark brown; stem central, rarely excentric, 2 cm diam., even or thickening upwards, solid, surface at times cracking lengthwise; spores yellowish, guttulate, 20 by 6 to 9, oblong-elliptic, with rounded ends.

Collected by the author on the ground in pine plantations at Klapmuts (508), at Stellenbosch (815), between Stellenbosch and Somerset West (2 078).

The cracking of the upper surface of the pileus is characteristic and resembles the cracking of the upper surface of the pileus of the European *Annellaria separata*. The context is harder in specimens in which it is somewhat scanty and such specimens usually dry very hard."

Collection 815 was examined but unfortunately the specimens are in very poor condition and little can be added to the original data. The sporophores have pilei which are deeply areolately-cracked—the cracks being up to 2 mm deep. The areolae are smallest at the centre where they are about 3 mm wide and largest toward the margin where they are 6—8 mm wide. The cap appears to be more or less smooth and there is no obvious tomentum. The hyphae of the fruitbody are hyaline and lack clamp-connexions but there are some oleaginous hyphae with brown contents in the walls of the tubes. No cystidia were observed. The spores, which are pale yellowish-brown and of the usual boletoid shape, measured 13,0—15,6 (—18,2) × 4,0—5,0 μ.

It should be noted that Pearson (1950) also studied the material in STE and observed "that the spores are the typical boletoid subfusoid spores with one rounded end and the other with an oblique apiculus, and measuring 14—17 × 4—5 μ with a few larger. Probably it is the same as *B. curtipes* and both may only be sun-dried *B. edulis*." This suggestion that *B. stellenbossiensis* may be only sun-dried *B. edulis* is difficult to accept since there is no mention of any reticulum on the stem and one would hardly describe *B. edulis* as having a yellowish to yellowish-brown cap. Furthermore, the stem of *B. edulis* would normally be well in excess of 2 cm diam.

TRICHOLOMATACEAE

Lentinus natalensis Van der Byl in Annale Univ. Stellenbosch **2,** 4—5, 1924. (Fig. 2*a*–*b*).

"Fruitbody stipitate and growing on wood. Cap thin, leathery, pliable when wet, brittle when dry, infundibuliform, 5—6 cm diam., surface red-brown (terra cotta), covered with scattered bundles of rough, dark coloured hairs, striate from the centre to the margin and later splitting; margin thin, recurved, and covered with similar hairs. Gills decurrent down the stalk, pale, crowded, 1 mm or less in width, with entire margin. Stipe 1,5 cm long, 3—4 mm wide, hairy, more or less velvety, red-brown.

On dead stump, Winkelspruit, Natal (648).

This species differs from *L. velutinus* especially in the striate cap which later splits. Furthermore the colour is different and it is not as densely hairy. In dried specimens the surface of the cap is slightly grooved" [f om the Afrikaans].

The type material consists of a single deeply infundibuliform fruitbody, 4,5 cm diam., which is sparsely covered with fascicles of hairs but was probably more conspicuously tomentose-hairy when young. It is now red-brown and neither sulcate nor striate even at the margin. The stripe is central, 2 cm long, 5 mm wide, and densely covered with red-brown hirsute-tomentum. The gills are decurrent, crowded, pale buff and without hyphal pegs. There are cystidioles in the hymenium, 22—64 μ in length, 6—8 μ in width, with refractive glassy contents. These vary in shape from small lanceolate organs to more elongate bodies with rather undulating outline resembling gloeocystidia, others are somewhat narrower, 4,2 μ wide, subcylindric or slightly fusiform with thickened walls except toward the apex. The spores are small, hyaline, elliptic, 5,2—6,2 × 3,0—3,2 (—3,75) μ.

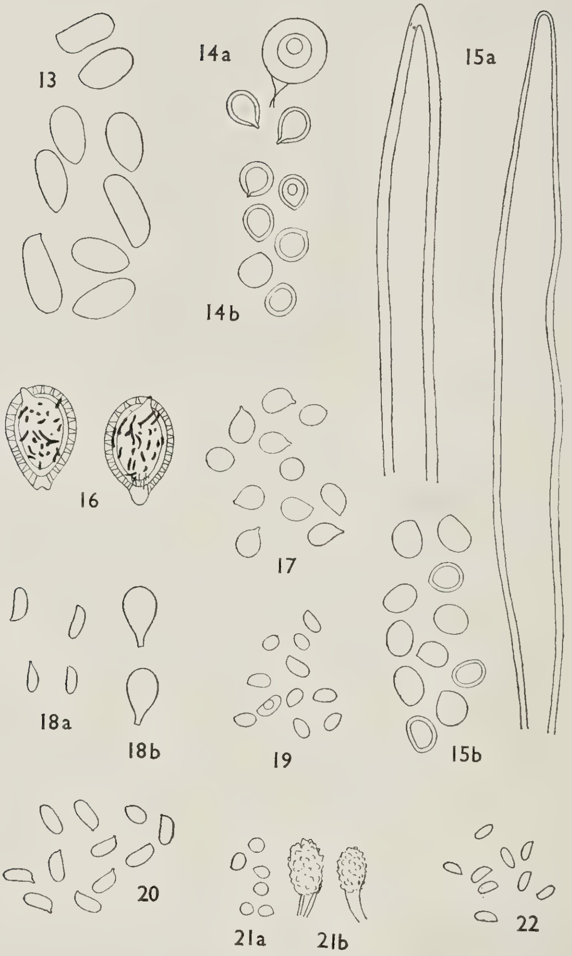
L. natalensis is best regarded as a synonym of the rather variable *L. velutinus* Fr. The differential characters emphasized by Van der Byl for his species are too unreliable to serve as the basis for the recognition of a distinct taxon.

Lentinus phillipsii Van der Byl in S. Afr. J. Sci. **23**, 284, 1926. (Figs. *3a–b;* 35.)

"Pileus stipitate, orbicular, glabrous, leathery, chocolate brown, 2,5—6 cm. diam., margin incurved in drying, at times splitting from the margin inward. Flesh white. Gills slightly decurrent and forming areolae on the stem, 1 mm or less apart, 3 mm wide, yellowish salmon in dried material, edge entire. Stem excentric, solid, 1 cm long, narrowing to the base. Spores hyaline, oblong with rounded ends, 10 by 4 μ.

On old wood, Knysna. Leg. J. F. V. Phillips (2240)."

The type material, collected by Phillips, 18.9.1925, consists of sporophores with pilei 2,3—5,8 cm diam. These are not quite circular, since the fruitbodies evidently grew close to the substrate resulting in the caps becoming flattened behind. The pilei, which have an incurved margin, are grey-brown with the surface disrupted into rather inconspicuous adpressed scales exposing the pale flesh. In addition the surface of the cap is covered with dark cobwebby fibrils which form more or less dense fibrillose scales at the centre. The ochraceous-cream gills, which are not crowded, anastomose on the stem down which they are shortly decurrent. The stipe, about 1 cm long, is strongly excentric. Anatomically the fungus is formed of thick or thin-walled clamp-bearing generative hyphae, up to 8 μ wide, which eventually give rise to elongated thick-walled elements of similar width, tapering to a thin-walled apex. These terminal elements could be regarded as skeletal hyphae but the differentiation is but slight. The structure is perhaps best regarded as rudimentarily dimitic. The thick-walled



Figs. 13–22.

Fig. 13 *Polyporus glauco-effusus*—spores. Fig. 14 *Polyporus nigro-applanatus* (a) ? chlamydospore (b) spores. Fig. 15 *Polyporus ochroporus* (a) setoid hyphae from dissepiments (b) spores. Fig. 16 *Polyporus reticulatosporus*—spores. Fig. 17 *Polyporus salisburiensis*—spores. Fig. 18 *Polyporus schreuderi* (a) spores (b) immature basidia. Fig. 19 *Trametes albotexta*—spores. Fig. 20 *Trametes griseo-lilacina*—spores. Fig. 21 *Trametes subflava* (a) spores (b) encrusted cystidia. Fig. 22 *Trametes varians*—spores. (All × 866.)

elements have a glassy appearance in KOH and may possibly have been somewhat gelatinized by it. The hyphae forming the dark fibrils at the centre of the cap are thin-walled, 5—8 μ wide, and encrusted with brown pigment deposited in transverse bands. No cystidia were observed. The basidia are clavate with a basal clamp-connexion and measure 40 × 5 μ. The spores are thin-walled, hyaline, elliptical, 7,2—9,75 × 3,5—4,2 μ.

APHYLLOPHORALES

POLYPORACEAE

Daedalea fuscospora Lloyd *apud* Van der Byl in S. Afr. J. Sci. **21,** 308, 1924.

[First published by Lloyd in Mycological Writings 7, 1122, 1922 as a *nomen nudum*]. (Fig. 4.)

"Pileus annual, sessile, applanate, dimidiate, coriaceous-corky, drying firm, 9 cm × 7 cm × 0,4—1,5 cm; surface rugulose, nigger brown, velvety to subglabrous; context brown, drying hard and brittle; tubes 0,5—0,9 mm long; mouths angular, poroid, becoming daedaleoid, greyish brown, averaging 1 to the mm; spores brown, guttulate, 5 μ—6 μ × 8 μ.

On old wood, Victoria Falls, Rhodesia (490)."

The name *D. fuscospora* was first introduced by Lloyd as a *nomen nudum*, in a list of determinations of fungi which were sent to him for naming by Van der Byl. However, when the latter published his validating description of the species he no doubt based this account on the specimens in his herbarium and hence the collection in STE should be regarded as the holotype and that in the Lloyd herbarium as isotype of the species.

According to Stevenson & Cash (1936), although Lloyd failed to publish a description of *D. fuscospora* he left fairly detailed notes with the material in his herbarium as follows:—'This is an exceptional plant difficult to place as to genus. As we recall the large pored species, with colored spores, only *Daedalea sprucei* of South America occurs to us. This African plant is not a good *Daedalea*, rather the type of a *Hexagona*, or large pored *Trametes*. The sinuate pores, however, place it in *Daedalea*, or rather *Phaeodaedalea* as McGinty calls the colored spored Daedaleas. Sessile, flat, about 1 cm thick. Surface with a dark, thin but distinct crust, glabrous but uneven. Context and pore tissue about Brussels brown. Pores large, irregular, sinuate, but probably better classed as an irregular *Hexagona* than as *Daedalea*. Setae none. Spores globose, 6—7 μ, colored, smooth. We would place this in section 150 of *Daedalea*, though as previously stated, it is not satisfactory to class it in any established section.'

The type material in STE, which has been treated with mercuric chloride, comprises a quite large sporophore, 8 cm wide, 6 cm from the point of attachment to the margin, with a dark, rusty-brown pruinose-tomentose covering over an almost black horny, but thin cuticle, which shows in sections through the fruitbody as a pencil-thin line. The surface of the bracket is uneven and knobbly as well as concentrically sulcate. The flesh is dark ochraceous-brown; the tubes, up to 1 cm deep, have thin dissepiments; the pores are daedaleoid, on average about 1 mm wide, and brown with an ashy pruina. Anatomically the flesh is monomitic, consisting of brown generative hyphae, up to 7,5 μ wide, with thin or only slightly thickened walls; they are branched and septate but devoid of clamp-connexions. Spores are abundant, 7—9 × 5—6 μ, deep brown, with thickened walls, varying in shape from broadly elliptical to ovate.

The generic placement of this fungus presents considerable difficulty for although the genus *Phaeodaedalea* was validly published by K. Fidalgo (1961) as an entirely new genus, the type species was given as *Daedalea sprucei* Berk. This has a trimitic hyphal structure and although the spores were thought by Fidalgo to be 'globose or subglobose, not amyloid, yellowish brown, slightly apiculate, thickened, 9,5—11,5 (—13) × 10,5—13,5 (—15) μ, with a smooth and brown outer layer, 1—1,5 (—2) μ diam., not stained by phloxine, which however stains the interior of the spore dark pink,' these are not the basidiospores but conidia; the actual basidiospores being 4,0—4,5 × 2,0—2,5 μ, thin-walled, hyaline and elliptical. Clearly *D. fuscospora* cannot be accommodated in *Phaeodaedalea* Fidalgo since it differs so markedly from the type species in anatomy and spore characters. In some respects it suggests the genus *Inonotus* Karst.

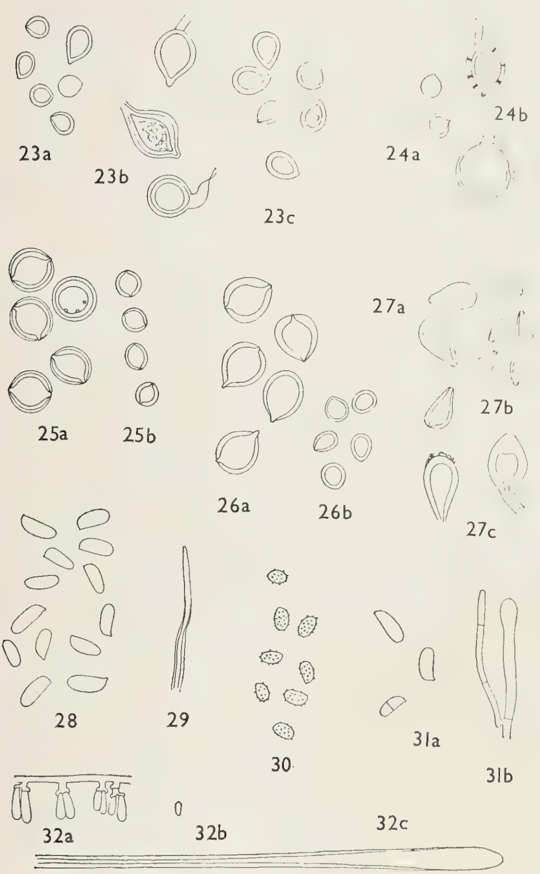
Daedalea hobbsii Van der Byl in S. Afr. J. Sci. **18,** 287, 1922.

"Plants annual, sessile; pileus dimidiate, coriaceous to corky, imbricate, laterally connate, decurrent at attachment, 5 to 12 cm by 4 to 5 cm by 0,5 to 2 cm; surface white, finely tomentose to subglabrous, azonate, usually tuberculate, rarely smooth; context 0,4 to 1,4 cm fibrous, tough, soft when fresh, drying firm and corky, zoned, wood coloured, shining, shade varying with angle of light; tubes 2 to 5 mm long, elongated on decurrent portion, white within; mouths poroid and subrotund to elongated and daedaloid, 2 to 3 to the mm measured transversely; edges thick entire, white; spores hyaline, smooth, globose, 3 to 4 μ diam; hyphae simple 3 to 5 μ diam.

Distribution.—Found at Howick, Natal, by G. Hobbs. (Type in Natal Herbarium, No. 922.)

The context has a satiny lustre when smoothly cut and the shade of colour appears different according to the angle of the light."

The type material at STE is *Trametes meyenii* Kl. [Syn. *Trametes obstinata* Cooke]. This fungus was transferred to the genus *Cerrena* S. F. Gray by Hansen (1960), but the trimitic hyphal structure is not in accord with such a disposition as noted by Van der Westhuizen (1971). It is best left in the genus *Trametes* Fr., although it may ultimately have to be accommodated in *Coriolus* Quél. The spores noted by Van der Byl in the type material of *D. hobbsii* were almost certainly of



FIGS. 23–32.

Fig. 23 *Polyporus vicinus* (a) spores from Kew specimen No. 1153 (b) chlamydospores from specimen No. 1153 in Herb. STE (c) spores from specimen No. 1154 in Herb. STE. Fig. 24 *Fomes mesoleucus* (a) spores (b) chlamydospores [both from Type specimen in Herb. K]. Fig. 25 *Vanderbylia ungulata* (a) spores ×1450 (b) spores ×866 [both from Type specimen in Herb. K.]. Fig. 26 *Vanderbylia fraxinea* (a) spores × 1450 (b) spores × 866 [both from Windsor Park, Berks. 4 Sept. 1958]. Fig 27 *Vanderbylia latissima* (a) spores × 1450 (b) spores × 866 (c) thick-walled cystidia. [from African material in Herb. K]. Fig. 28 *Polyporus rusticus*—spores. Fig. 29 *Odontia knysnana*—cystidiole. Fig. 30 *Clavaria durbana*—spores. Fig. 31 *Guepinia agariciformis* (a) spores (b) immature basidium and septate paraphysis. Fig. 32 *Hydnum longispinosum* (a) immature basidia (b) spore (c) skeletal hypha from spine. (All ×866 except where otherwise indicated.)

extraneous origin. The spores of *T. meyenii* measure 3,75—6,0 (—6,5) × 2,0—3,0 μ.

Daedalea ligneo-texta Van der Byl in S. Afr. J. Sci. **21,** 308, 1924. (Figs. 5, 36.)

"Pileus, sessile, woody, laterally elongated, broadly attached, narrow, 6 cm × 1 cm—2,5 cm × 1,5 cm; surface woody, glabrous, greyish, uneven and cracked; context hard, 5 mm—7 mm, light brown; tubes 3 mm—5 mm long, mouths irregular, dissepiments thick, rupturing and mouths then daedaloid.

Old wood, Knysna (1356), by A. E. van der Bijl.

Recognisable by woody, broadly attached pileus with greyish, uneven and cracked upper surface."

The type specimen, collected at Knysna, Jan. 1924, is a thick, creamy-white, woody fungus, with remarkably hard, lignicolorous flesh. The fruitbody consists of an effused resupinate portion, extending down over the substrate and bearing open 'pores', represented by thick, elongated, plate-like dissepiments. At its upper limit the fungus has grown out to produce a thick (—1,5 cm), narrow, convex pileus with downward curving margin. On the underside of the pileus the pores are represented at the margin by a series of radial plates which are often forked but these fuse behind to form small pores which are approximately 2 per mm. Hyphal structure is difficult to interpret owing to the extremely hard flesh, but this comprises thin-walled, clamp-bearing generative hyphae, and solid skeletal hyphae, 4—5 μ diam.; it is not certain whether binding hyphae are present. There is a well-developed hymenium formed of clavate basidia, 26,0 × 8,75 μ and these give rise to hyaline, elliptical spores measuring 10,5—12,0 × 4,0 μ. However, very few spores were seen and observation was hampered by the specimen having been poisoned with mercuric chloride.

Daedalea rhodesiaca Van der Byl in S. Afr. J. Sci. **22,** 167, 1925. (Fig. 6*a–b*.)

"Plants small, coriaceous, annual, sessile, effuso-reflexed, drying brittle; pileus imbricate, laterally elongated, 0,5 by 1 to 2 by 0,5 cm; surface strigose, yellowish-brown, fading to pale, faintly concentrically zoned; context brown, corky; tubes 2 mm to 3 mm long, approximately 1 mm across, dissepiments yellowish-brown, splitting and becoming irpicoid; spores not found.

Collected on old wood at the Victoria Falls, Rhodesia by the author (790)."

Most of the fruitbodies have a poroid hymenophore but in some the configuration is irpicoid. The hyphal construction of the yellowish flesh is virtually dimitic. The generative hyphae, 5 μ wide, have thickened yellowish-brown walls, but retain a wide lumen. These hyphae, which are septate, lack clamp-connexions and are often branched. However, the terminal elements may be extremely long and unbranched and are indistinguishable from skeletal hyphae. Some of these skeletal hyphae enter the hymenium where they become modified to form small, lanceolate, encrusted cystidia. In addition similar cystidia originate from generative hyphae just beneath the hymenium. Spores are numerous, hyaline, elliptical, and measure 5,0—7,0 × 3,0—3,5 μ.

This is '*Irpex*' *flavus* Kl.

Fistulina africana Van der Byl in S. Afr. J. Sci. **25,** 187, 1928. (Fig. 7*a c*.)

"Pileus stipitate, fleshy, subgelatinous in upper layer, subreniform to dimidiate, 3 × 5 cm, up to 2,5 cm thick; upper surface maroon coloured, rough with darker coloured, raised pustules; flesh colourless to ashy grey, not mottled with reddish spots, drying brownish; stipe short, lateral, up to 1 cm diam., with putty-coloured spots in the tissues; tubes up to 1 mm long, separate; mouths round, chocolate-coloured; spores 5—7 × 3—4 μ, globose to ovoid or ellipsoid, yellowish-brown in mass, contents light yellowish, with a large central gutta. On trunks of living *Platylophus trifoliatus* at Knysna. Collected by J. F. V. Phillips in March, 1926 (2320), and by F. Laughton in April, 1928 (2504). This is the first record of a *Fistulina* from South Africa."

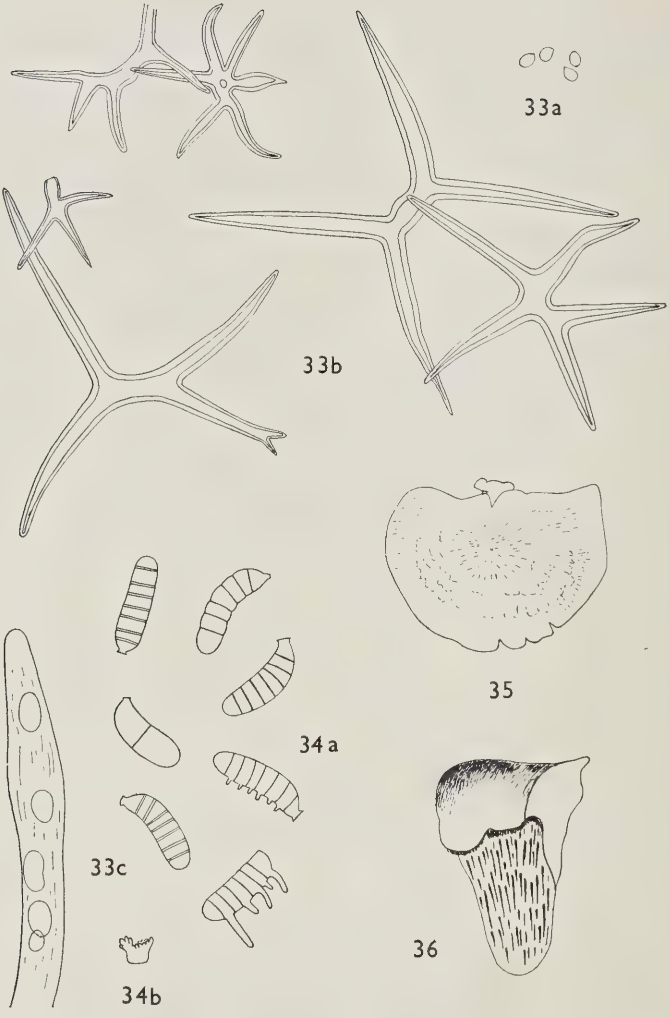
Collection No. 2320 is too shrivelled to give much idea of the appearance of the fresh plant. The hyphal construction is monomitic, consisting of very thin-walled, twisted, ribbon-like generative hyphae, some of which appear to bear clamp-connexions, although these are difficult to demonstrate. In addition there are broad conducting hyphae, 5 μ wide, with coloured 'sap'. At the mouth of the tubes there are long clavate, cylindric or fusiform elements, 4,5—6,0 μ wide, which taper toward the base and contain a coloured 'sap'. There is a thick horny layer at the surface of the pileus. In section this consists of a dense, dark-brown layer of horizontal hyphae. Above it the hyphae are somewhat disorientated but finally grow up vertically. In this latter zone some of the hyphae form dense tufts, which probably represent rudimentary pores as found on the surface of the European fungus *F. hepatica* Schaeff. ex Fr. The basidia, 6,2 × 5,75 μ, are short and squat with 4 sterigmata. The spores, 5,0—6,0 × 4,0—4,5 μ, vary from ovate to broadly elliptical or elliptical.

F. africana is certainly correctly assigned to the genus *Fistulina* Bull. ex Fr. It appears to differ from *F. hepatica* in the lack of red flesh and in having chocolate-coloured pores.

It should be noted that in addition to the collections cited by Van der Byl there are 2 further gatherings in STE from Knysna collected by F. S. Laughton in April, 1924 and January, 1929.

Irpex africanus Van der Byl in Annale Univ. Stellenbosch **12,** 5, 1934.

"Fruitbody sessile, pileate. Pileus coriaceous, firmer when dry, imbricate, 1,5—3 cm from the substrate, 3 cm broad, narrowing behind to 1,5—3 cm; upper surface glabrous, cinnamon to sandy-brown; shining with concentric zones, smooth or rough. Context 0,75—2 mm thick, cinnamon-coloured. Hymenophore tubular; tubes 0,25—0,75 mm long; pores irregular, angular, 3–4 to the mm, cinnamon to sandy-brown, later becoming toothed.



FIGS. 33–36.

Fig. 33 *Lachnocladium cristatum* (a) spores (b) stellate elements forming context of main branches (c) gloeocystidium. Fig. 34 *Dacrymyces australis* (a) spores, two of which have germinated (b) habit sketch of fruitbody ×1. Fig. 35 *Lentinus phillipsii*—habit sketch ×1. Fig. 36 *Daedalea ligneotexta*—habit sketch ×1. (All ×866 except where otherwise indicated.).

On rotten wood. No indication where it was collected." (From the Afrikaans).

The specimens so named in STE bear the No. 539 and consist of poorly preserved flabellate sporophores, which are reduced behind to a narrow point of attachment. The brackets, which are more or less imbricate, have a mid-brown surface with a dark blackish-brown margin. They are zoned and have a silky sheen but are ornamented with adpressed spiculose processes which are a marked feature of some fruitbodies though less well developed in others. The pores, often absent from the marginal zone, are small and become toothed and irpicoid with age. Anatomically the flesh is trimitic, comprising skeletal hyphae, up to 8 μ diam., many of which are thin-walled or have a broad lumen, and coralloid binding hyphae which are virtually solid; generative hyphae were not actually demonstrated. There was no hymenium present and no cystidia or spores were seen.

This fungus belongs in the genus *Coriolus* Quél. and is reminiscent of *C. friesii* (Kl.) Pat.

Polyporus acaciae Van der Byl in S. Afr. J. Sci. **22,** 168, 1925. (Fig. 8*a–b*.)

"Plants annual, sessile; pileus ochraceous, coriaceous, drying firm and brittle, at times imbricate and laterally connate, dimidiate or prolonged radially; surface azonate, finely velvety tomentose, 0,5 cm to 1,5 cm by 0,5 cm to 1 cm by 0,2 cm; context 1 mm thick, corky, light yellow; tubes 1 mm long; pore mouths irregular, subrotund to angular, 4 to 6 to the mm; spores not found.

Common on stumps of *Acacia mollissima* at Krantzkloof, Natal, where it was collected by the author (773).

This plant agrees in general with *Polyporus subiculoides* recently named from South Africa by Mr. C. G. Lloyd, but differs from it in that it has no subiculum."

The above material consists of narrow, entirely buff-coloured brackets with a minutely felty-tomentose surface, and an hymenophore comprising minute pores, 5—6 per mm. The brackets measure 1,2 cm from the point of attachment to the margin. The context consists of hyaline hyphae, 2,5—3,0 μ wide, with thickened walls although retaining a wide lumen, and bearing small clamp-connexions at the septa. In the dissepiments there are also rather long, unbranched similar hyphae and the structure here could be interpreted as dimitic. There are capitate cystidioles in the hymenium about 15 μ long with heads about 8 μ diam. The spores are hyaline, and vary from ovate to broadly elliptical, and measure 3,2—3,75 × 2,2—2,5 μ.

This is *Polyporus subiculoides* Lloyd as Van der Byl has, himself, noted on the packet. The fungus belongs in the genus *Xylodon* Karst. together with *X. versipora* (Pers.) Bond.; the transfer having been made by Reid (1969). For full cultural data see Van der Westhuizen (1971). See also under *Polyporus trichiliae* Van der Byl.

Polyporus argenteofulvus Van der Byl in S. Afr. J. Sci. **24,** 225, 1927. (Fig. 9.)
Amauroderma argenteofulvum (Van der Byl) Doidge in Bothalia **5**: 503, 1950.

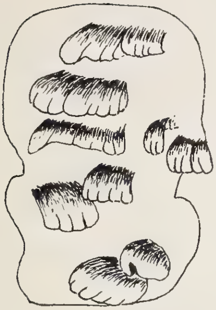
"Pileus annual, stipitate, umbrella-shaped, depressed in the centre, glabrous, even, 5 cm diam., silvery-brown, with darker hazel-brown concentric rings; context white, corky, up to 2 mm thick, with two brown coloured rings running from the stalk to near the periphery of the pileus; tubes yellowish-brown, 5 to 9 mm long; mouths angular, 2 to 3 to the mm, dissepiments thin; spores light yellow, oblong with rounded ends, 16 to 18 μ by 6 μ ;stipe central 3 cm long, 5 mm diam., silvery brown. At Salisbury, Rhodesia. F. Eyles 4110. (2421)."

The cap, 4,5 cm diam., is convex, umbilicate and ochraceous with numerous distinct darker zones which are closest together at the margin. Within the umbilicus there are a few innate spiculose fibrils. There is a short stipe 3 cm long, 1 cm wide, which narrows above. The context of the cap is pale and marked with two dark, horny lines in the middle extending from the centre of the pileus almost to the margin. The hyphal structure is dimitic, consisting of thin-walled, branched clamp-bearing generative hyphae, and very long, solid, unbranched skeletal hyphae, 5 μ wide. The spores, 14,0—18,2 × 4,5—6,0 μ, are thin-walled, hyaline to distinctly brownish, and either subcylindric or narrowly elliptical.

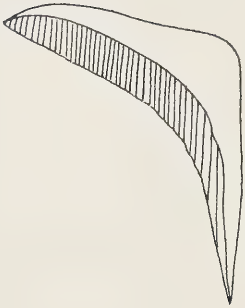
Polyporus confragosus Van der Byl in S. Afr. J. Sci. **24,** 225, 1927. (Fig. 10.)

"Pileus annual, stipitate, orbicular to umbrella-shaped, fawny-brown, velvety to subglabrous, irregularly furrowed radially; uneven, 2 to 10 cm diam., 5 to 7 mm thick individual pilei at times coalesce; context amber yellow, corky, 2 mm thick; tubes hazel-brown, 3 to 4 mm long; mouths putty coloured, 4 to 5 to the mm, irregular; spores lightly coloured, subglobose, smooth, 12 μ diam.; stipe central, 2 to 3 cm long, 0,5 to 1 cm diam., dark brown. Rhodesia. F. Eyles 4111 (2422)."

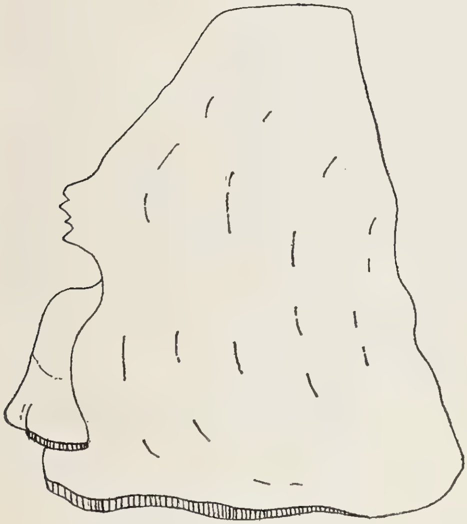
The above material consists of stipitate sporophores with caps 2,5—8,0 cm diam. In one instance the sporophore is a compound structure involving 4 fruit-bodies and it is possible to make out 4 fused or semi-fused stalks up to 3,5 cm long. The ochraceous-buff caps are convex, slightly depressed at the centre, concentrically sulcate and radially wrinkled or knobbly. There is a well-marked raised ridge around the depressed centre, and the surface of the pileus is ornamented with alternating matt and greasy-shining zones. The context is brownish with a dark line along the central portion. It consists of clamp-bearing generative hyphae and thick-walled hyphae, 6 μ diam., with a wide lumen, which are repeatedly branched and finally terminate in elongated whip-like endings. These hyphae are best regarded as Bovista-type binding hyphae rather than arboriform skeletals. Spores are present which vary in shape from globose to ovate.



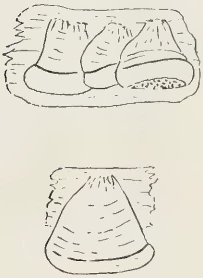
37



38



39



40

FIGS. 37–40.
Fig. 37 *Polyporus durbanensis*—habit sketch. Fig. 38 *Trametes salebrosa*—section through fruitbody. Fig. 39 *Trametes subflava*—section through fruitbody. Fig. 40 *Polyporus schreuderi*—habit sketch. (All × 1).

They have a distinct wall which is minutely punctate, and are pale straw-coloured; they measure 10,5—12,0 × 9,0—10,5 μ.

This fungus clearly belongs in the genus *Amauroderma* (Pat.) Torrend and is accordingly so transferred as *Amauroderma confragosus* (Van der Byl) Reid, comb. nov.

Polyporus durbanensis Van der Byl in S. Afr. J. Sci. **18,** 261–262, 1922. (Figs. 11, 37.)

"Plants annual, sessile or effused reflexed; pileus dimidiate, imbricate, applanate to conchate, laterally connate, 1 cm to 3 cm by 0,5 cm to 2,5 cm by 0,1 cm to 0,3 cm, coriaceous, tough, becoming firm and rigid in drying; surface pearl to lead or ash grey, finely tomentose pruinose, undulating, smooth becoming scabrid and fuliginous in places; context 0,5 mm to 1,5 mm white to discoloured, firm, corky; tubes 0,5 mm to 1,5 mm long; mouths irregular, angular, 4 to 5 to the mm; edges thin, entire, grey changing to yellowish; spores hyaline, globose to oblong, 4 μ diam., hyphae 4 μ to 5,5 μ.

Distribution.—Known only from around Durban where it was collected on dead logs by the writer. (Type in Natal Herb. P. v.d. B., No. 896.)"

The collection in STE, No. 571, is clearly not the type but nevertheless it was collected by Van der Byl at Durban and agrees with the original diagnosis in most respects. The fruitbodies consist of a subiculum growing over the vertical surface of the host and arising from it are numerous small, discrete brackets, up to 1,8 cm wide and about 1 cm from the point of attachment to the margin. The pilei, more or less convex, with a downwardly curved and inconspicuously radially plicate margin, have a smooth pruinose-scurfy-tomentose, grey-buff surface. The concolorous pores are very small and just about visible to the naked eye. The hyphal structure of the context is trimitic comprising thin-walled, hyaline, clamp-bearing generative hyphae, coralloid binding hyphae, 2,5—3,0 μ wide, and unbranched, virtually solid skeletal hyphae, 5—6 μ wide. No cystidia were seen. Scanty spores were present but these were mostly collapsed. They were small, elliptical, 4,0—4,75 × 1,0—2,0 μ, and seemed to belong to the fungus in question.

Clearly this collection represents a fungus belonging to the genus *Coriolus* Quél., but before any transfer is made it will be necessary to confirm any such disposition by a study of the type material.

Polyporus flexilis Van der Byl in S. Afr. J. Sci. **18,** 271, 1922.

"Plants effused-reflexed; pileus coriaceous, imbricate, tough, at times conchate, laterally extended, connate, 1 cm to 7 cm by 1 cm to 1,5 cm by 0,1 cm to 0,5 cm; surface with a brown velvety to hirsute pubescence, azonate; margin thin, acute, often turned upwards; context soft and spongy to corky, 1 mm to 4 mm, umber brown, shining, fibrous; tubes 0,3 mm to 1 mm long, concolorous with context, elongated on effused portion; mouths subrotund to elongated or angular, 2 to 3 to the mm; edges entire, thin, brown; hyphae simple 4 μ to 5 μ.

Distribution.—Found at Pietermaritzburg, Natal, on log, by the writer.

The plant is related to *Polystictus zelanicus*, and differs from *Trametes protea*, Berk., in colour of context. (Type in Natal Herbarium, P. v. d. B., No. 810.)"

A specimen in STE, No. 894, determined by Van der Byl and collected by him at Pietermaritzburg, consists of fruitbodies forming long, narrow, effuso-reflexed brackets, prolonged behind into a resupinate portion. The brackets are 4—5 cm long, but only 1,0—1,5 cm from the point of attachment to the margin. At the surface the pileus is covered with a warm brown tomentum, which appears shaggy under a lens. The pores are similarly coloured and are 2—3 per mm, but there is a non-poroid, sterile marginal zone. The flesh is cottony and warm olive brown. Anatomically the context is clearly trimitic, comprising branched, thin-walled generative hyphae, 3—4 μ wide, with clamp-connexions, dense clumps of coralloid binding hyphae, 2,5—3,0 μ wide, and long, unbranched skeletal hyphae, 5—6 μ wide, with rather thick brown walls but retaining a wide lumen. No cystidia or spores were seen.

This is probably the same as *Funalia protea* var. *imbricata* (Berk.) Reid, comb. nov. [Basionym: *Polyporus proteus* var. *imbricatus* Berk. in Hooker's Lond. J. Bot. **2**, 516, 1843] but in the absence of spores one cannot be absolutely certain for the reasons outlined under *P. glauco-effusus* Lloyd; see also under *P. glaucoporus* Lloyd, *P. livingstoniensis* Van der Byl and *P. rusticus* Lloyd.

It should be noted that in addition to the above collection there is another gathering in STE. This material (No. 578) was also determined by Van der Byl.

Polystictus glauco-effusus Lloyd in Mycological Writings **7**, 1334, 1925 (Fig. 3074).

Polyporus glauco-effusus (Lloyd) Van der Byl in S. Afr. J. Sci. **23**, 289, 1926. (Fig. 13.)

"Pileus effuso-reflexed, elongated, about an inch wide. Surface finely pubescent, light ochraceous brown, not zoned. Context thin, isabelline. Pores glaucous grey, minute round, or elongated (according to position). No cystidia or spores seen, but the white hymenium has numerous projecting hyaline hyphae. When we saw this specimen the glaucous grey pores recalled to us at once *Polystictus glaucoporus*, which we named recently for Prof. Bijl (compare page 1334), but on comparison we find an entirely different habit and pileus surface. This we would enter in Section 111 (rather than in 117)".

This fungus is extremely similar to *P. flexilis* Van der Byl in appearance and structure and also to *P. glaucoporus* Lloyd, *P. livingstoniensis* Van der Byl and *P. rusticus* Lloyd. It should be noted that Lloyd's observation that *P. glauco-effusus* has an entirely different habit and pileus surface from that of *P. glau-*

coporus is not borne out by a study of the type collections of these two species in STE. However, it must be admitted that Lloyd's photograph of the type material of *P. glaucoporus* (fig. 3080) shows almost dimidiate fruitbodies whereas the material of the same collection in STE consists of elongated brackets. Nevertheless, although *P. glauco-effusus* and *P. glaucoporus* appear so similar to the eye, they differ in spore characters, for although both have hyaline elliptical spores, in *P. glauco-effusus* they measure 15,5—17,75 × 5,0—6,5 (—8) μ, in *P. glaucoporus* they have a range of 8,75—11,5 × 3,2—4,2 μ. The fact that there is this spore difference makes it difficult to assign the other similar species to synonymy when the type material is sterile (as in *P. flexilis* and *P. livingstoniensis*). Notwithstanding, it would seem that the smaller spored fungus inclusive of *P. glaucoporus* and *P. rusticus*, is by far the most common and widespread in tropical and subtropical regions of the world and is best referred to as *Funalia protea* var. *imbricata* (Berk.) Reid. Since this fungus is so abundant in South Africa it would seem preferable to relegate the species based on sterile material to synonymy under the latter name, albeit with a point of interrogation. *P. glauco-effusus* also belongs in the genus *Funalia* Pat. but there is an older name for this fungus viz. *Polystictus argenteus* Lloyd which is hereby transferred to that genus as *Funalia argentea* (Lloyd) Reid, comb. nov. [*Polystictus argenteus* Lloyd in Mycological Writings **7**, 112, 1922].

Stevenson & Cash (1936) have pointed out that owing to a typographical error, the specific epithet was originally published as *glauco-effuses*, as indicated by the correct legend to fig. 3074, and in the original manuscript of the published note. These authors also indicated that the type specimen [No. 53641 in the Lloyd Herbarium] is the collection bearing Van der Byl's No. 1470. Doidge (1950) added that this material was collected on poles of *Eucalyptus* sp. at Woodbush (Transvaal.) The type material in STE bears the following data "On *Eucalyptus* pole, Tzaneen Plantation, Transvaal, July 1924."

Polyporus glaucoporus Lloyd *apud* Van der Byl in S. Afr. J. Sci. **21,** 313, 1924. *Polystictus glaucoporus* (Lloyd *apud* Van der Byl) Lloyd in Mycological Writings **7,** 1334, 1925 (Fig. 3080). (Fig. 12).

"Plants annual, sessile, thin; pileus coriaceous, applanate, imbricate, laterally connate, 3 cm—4 cm × 3 cm × 0,1 cm—0,3 cm; (Thin, applanate, rigid, sessile.) surface yellowish, tomentose, becoming rugulose-fibrillose in older regions; (Surface pale, dull, rugulose.) context brown, thin (Context brown.) tubes 1 mm—2 mm long, strongly glaucous within, mouths subrotund to angular or elongated radially (Pores small, elongated, angular, strongly glaucous.) dissepiments thin, splitting. (Cystidia none. Spores not found.).

Victoria Falls, Rhodesia (1066).

Recognisable by its strongly glaucous tubes."

Lloyd (1925) noted "What confusing situations do come up in classification!

Here we have a plant that we are convinced is a *Hexagona* as to relations, the section *Tenuis*, the same in everything excepting in its pores, and *Hexagona* is based on pores". He continued "We enter this in Section 117 with *Polystictus luteo-olivaceous*, but to our mind this section is more closely related to the section *Tenuis* of *Hexagona* than to *Polystictus*, excepting as to pores. The word *Polystictus* has a usual meaning of flexibility, which is just the contrary of this group of plants."

The type material in STE, consists of long brackets up to 7 cm in length and 3—5 cm from the point of attachment to the margin, with a pale buff to ochraceous-buff surface which is tomentose especially toward the margin but elsewhere rough with innate fibrillose strands or with a few spiculose processes at the extreme base. In one sporophore regeneration has occurred from an old dark blackish-brown basal portion. The flesh is olive-brown; the pores, 2—3 per mm, are very strikingly glaucous or ashy-grey; and the fruitbodies are flexible. Anatomically the hyphal structure is trimitic as in *P. flexilis* Van der Byl. There are very scanty and possibly immature spores present which are hyaline, elliptical and measure 8,75—11.5 × 3,2—4,2 μ.

This is *Funalia protea* var. *imbricata* (Berk.) Reid. For further discussion of this and allied species see under *P. flexilis*, *P. glauco-effusus* Lloyd, *P. livingstoniensis* Van der Byl, and *P. rusticus* Lloyd.

Polyporus livingstoniensis Van der Byl in S. Afr. J. Sci. **22,** 168–169, 1925.

"Plants annual, sessile; pileus dimidiate, coriaceous, 1,5 cm to 3,5 cm by 0,7 cm to 2 cm by 0,3 cm; surface azonate, light grey, rugulose, hirsute; context brown, 1 mm thick, tubes 1 mm to 2 mm long, glaucous within, mouths irregular 1 to 2 to the mm; dissepiments thin, splitting; spores not found.

Collected on dead wood at the Victoria Falls, Rhodesia, by the author (799).

Polyporus glaucoporus, Lloyd and *Polyporus glauco-effusus*, Lloyd, have glaucous tubes with smaller pore mouths than *P. livingstoniensis*. The surface of the last-named is also more strongly hirsute and rougher to the touch."

The type material is very similar indeed to *P. flexilis* Van der Byl, *P. glauco-effusus* and *P. glaucoporus*. The pileus is attached by a dorsal boss and has a whitish, densely spiculose-roughened surface. The pores, which are strikingly ashy-grey, are larger than those in the three above-mentioned species, being 1 per mm. The flesh is olive-brown and trimitic as in these species. Spores were not seen.

This is probably *Funalia protea* var. *imbricata* (Berk.) Reid. See also under *P. flexilis*, *P. glauco-effusus*, *P. glaucoporus*, and *P. rusticus*.

Polyporus nigro-applanatus Van der Byl in S. Afr. J. Sci. **21,** 311, 1924. (Fig. 14 *a–b*.)

"Pileus sessile, applanate, woody, 31 cm × 19 cm × 0,8 cm—3,5 cm; surface horny encrusted, black, tuberculate; context creamy, fibrous-floccose, corky, drying hard, 0,5 cm—1 cm thick; tubes 2 mm—7 mm long, creamy to brownish in herbarium specimens; mouths angular, irregular, light cinnamon, 2—5 to the mm; edges entire; spores lightly coloured, globose 10 μ—14 μ diam.

A single collection in bush at Durban, Natal (808).

Easily recognized by its black surface and relative large spores."

The type material at STE has a smooth, black, horny surface, lignicolorous flesh and similarly coloured but slightly more greyish-buff pores, which are invisible to the naked eye. It has a hard, woody texture and the tubes, up to 7 mm long, are not stratified. Hyphal structure of the flesh is difficult to interpret owing to its hard woody consistency. No generative or binding hyphae could be demonstrated but solid dextrinoid glassy skeletal hyphae, up to 8 μ diam., appear to comprise the context. No cystidia were seen. Spores were abundant 8—9 × 7—8 μ, varying in shape from globose to ovate, with thickened dextrinoid walls. In addition there are in the hymenium large thick-walled globose spores, measuring 14,2 μ diam., which are probably chlamydospores. It was the latter which Van der Byl mistook for the spores of this fungus.

P. nigro-applanatus appears to be the same as that described a month previously by Lloyd as *P. vicinus* q.v. and which has been made the type species of the new genus *Vanderbylia* Reid.

Polyporus ochroporus Van der Byl in S. Afr. J. Sci. **18**, 269, 1922. (Fig. 15*a–b*.)

"Pileus sessile, convex above, thickest behind, 5,5 cm by 4 cm by 0,5 cm to 2,5 cm; surface brown, soft, minutely pubescent; context 0,5 cm to 2,3 cm, soft, tough, yellowish-brown above, dark-brown and brittle below, zonate, shining; tubes 1 mm to 7 mm long, ochre yellow, brittle, rigid brown hyphae in the walls; mouths angular averaging 2 to the mm, edges thin, entire to dentate, concolorous with tubes, changing to brown; spores lightly coloured, subglobose to ellipitcal, 4 μ to 5 μ by 5 μ to 7,5 μ; setae scanty 15 μ to 21 μ long by 4 μ to 7 μ diam.; hyphae 4 μ to 8 μ.

Distribution.—A single collection from a stump in Eastern Cape Forest Conservancy was made by the writer. (Type in Natal Herbarium, P. v. d. B., No. 115).

The plant is evidently related to *P. patouillardii*, but with different surface, different colour of mouths, duplex context, larger pore mouths and thinner setae. The rigid hyphae in the walls of the tubes are less abundant than in the specimens of *P. patouillardii*."

There is in STE a specimen of *P. ochroporus* determined by Van der Byl from the Eastern Cape but bearing the No. 130. This agrees in macroscopic features with the original diagnosis. It has large setoid hyphae 300 μ long and up to 13 μ wide, in the dissepiments. These elements, which may protrude into the tubes, taper to a narrow point of origin and have a pointed apex. Normally similar setoid hyphae are found on the surface of the pileus in this species [Pegler (1964)] but no trace of any such hyphae were observed in this material. Setae could not be demonstrated in the tubes despite Van der Byl having observed them in the type material. Spores were abundant, 7—9 × 6—7 μ, and broadly elliptical but sometimes almost subglobose, and with slightly thickened walls.

A second collection on *Salix* sp., Pietermaritzburg, coll. W. G. Rump (2768), Jan. 1935, is also preserved at STE. This too shows setoid hyphae in the tubes but none on the cap surface and again setae appear to be lacking in the hymenium.

This fungus belongs in the genus *Inonotus* Karst. and was so transferred by Pegler (1964).

Polyporus reticulatosporus Van der Byl in S. Afr. J. Sci. **24,** 225-226, 1927. (Fig. 16.)

"Pileus annual, stipitate, umbrella-shaped, 2 to 5 cm diam., 1 to 1,5 cm thick, yellow-ochre; context 2 to 6 mm thick, deep cream, corky; tubes 0,4 to 1 cm long, brownish-yellow (probably white in fresh specimens); mouths yellowish-white, irregular, 3 to 4 to the mm; spores papillate, reticulately marked, faintly coloured, sulphury-yellow in mass, 24 to 28 μ by 16 μ; stipe central, 6 to 7 cm long, 0,5 to 1,5 cm diam., reddish-brown, varnished (lower part covered with sand). On dead wood at Salisbury, Rhodesia. F. Eyles 4121. (2419)."

The above material, collected in January 1925, consists of centrally stipitate fruitbodies with caps 2,0—5,5 cm diam., having a yellowish-ochre surface, which may be either matt or more or less shining. According to Eyles' notes the pileus of the fresh plant was "pale brown to cream, stipe with blood cold 'varnish' below cap, hymenium grey white. . . ." Anatomically the context consists of generative hyphae and skeletal hyphae up to 10,5 μ wide, which are solid, glassy, subhyaline and seemingly occasionally branched. Also present are long, tapering, hyaline, scantily branched binding hyphae, about 2,5 μ wide, of the Bovista-type. [It is just possible that these could be the arboriform endings of the skeletal hyphae or of certain skeletal hyphae]. The spores, 25,0—26,0 × 15,6—16,0 μ, are pale straw-coloured, and of the typical Ganoderma-type, ornamented with a very broken reticulum of rods, lines, and isolated dots.

This fungus belongs in the genus *Ganoderma* Karst. and is hereby transferred to that genus as *Ganoderma reticulatosporus* (Van der Byl) Reid, comb. nov.

Polyporus rusticus Lloyd in Mycological Writings 5, Mycological Notes No. 53, p. 751, 1918 (Fig. 1124). (Fig. 28).

"Sessile dimidiate. (Plants annual, sessile;) Surface rugulose, scrupose. (pileus corky, firm, rigid, circular to dimidiate 1,5 cm to 4 cm by 0,5 cm to 2 cm by 0,2 cm to 0,6 cm; surface grey, rugolose, scrupose;) Context hard, subligneus, Brussels brown. (context 3 mm to 4 mm fibrous, tough, corky, dark brown; margin acute, thick;) Pores rigid, small, with tissue paler than the context.

Mouths concolorous. (tubes 1 mm to 2 mm long, lighter than context; mouths irregular, angular to elongated, approximating 2 to 3 to the mm elongated as much as 2 mm; edges thick, firm;) Setae none. Spores cylindrical, 3,5 × 8, lateral, apiculate, hyaline (Spores (teste Lloyd) hyaline, cylindrical, obliquely apiculate, 3,5 μ by 8 μ; setae absent; hyphae 4 μ diam.)"

Van der Byl added "*Distribution.*—Single collection from Pine stump at Klapmuts, C.P. made by the writer. (Cotype in Natal Herbarium, P. v. d. B. No. 387).

The rough scrupose surface is peculiar. The pore mouths are frequently much elongated, and would suggest that the fungus may possibly occur in the lenzitoid form."

Lloyd also observed "I would enter this in Section 95, although the hard context and generally rigid nature suggest *Trametes.* I do not know any other species with same context color."

The specimen, in STE, although "on stump of *Pinus* sp., Klapmuts, C.P." bears the No. 285. This collection is surely only a slightly thicker non-flexible form of *Funalia protea* var. *imbricata* (Berk.) Reid in which the surface of the fruitbody is pallid and more or less spiculose behind, but brown and tomentose toward the margin. The pores, 2—3 per mm are brown, having lost their glaucous appearance due to weathering. Anatomically the context is trimitic as in *P. flexilis* Van der Byl, but binding hyphae are not very abundant.

There are hyaline elliptical spores measuring 7,5—9,0 × 3,0—4,0 μ.

For a further discussion of related species see under *P. flexilis*, *P. glauco-effusus* Lloyd, *P. glaucoporus*, and *P. livingstoniensis.*

Polyporus salisburiensis Van der Byl in S. Afr. J. Sci. **24**, 226, 1927. (Fig. 17.)

"Pileus annual, stipitate, orbicular, 5 to 9 cm diam., 0,7 to 2 cm thick, maize yellow, margin blackening when touched (in fresh specimens); context 0,5 to 1,8 cm thick, dark fawn, corky; tubes up to 2 mm long; mouths ashy-grey to darker where bruised, minute, irregular, 5 to 6 to the mm., dissepiments thick; spores scanty, ovate to elliptic, faintly coloured, 5 × 6 to 8 μ diam., stipe central, 4 to 7 cm long, up to 1 cm diam., umber-brown. On the ground at Salisbury, Rhodesia. F. Eyles 4220. (2437)."

The collector's note on the type material in STE states: "Hard, rigid, 4—5 cm height above ground, up to 9 cm diam. Pileus centre light brown, dry, slightly concave, margin slightly raised, 10—15 mm wide, bright sulphur yellow, turning black where touched. Context blood red, turns black, up to 20 mm thick. Tubes at deepest 2 mm, minute. Hymenium dull creamy grey. Stipe 10 mm diam. at top, hard."

The specimens now are centrally stalked with a single stipe or with two stipes fused below and becoming slightly separated above, but the pileus then shows no sign of its dual origin. The pileus, 5—6 cm diam., and 1,5 cm in total thickness, has an ochraceous-brown, scurfy-pruinose surface and a very obtuse margin. Pores are not visible to the naked eye but the hymenophore is brownish-grey with dark areas suggestive of bruising. The flesh is ochre-brown and there is only a poorly developed cuticle. The tubes are very shallow, up to 1 mm deep. The stipe is warm brown with a scurfy-pruinose surface. Anatomically the context of the pileus has a dimitic structure consisting of clamp-bearing generative hyphae and skeletals, 4—5 μ wide, with thick, subhyaline or pale brown walls, and with very much branched arboriform endings, which resemble Bovista-type binding hyphae. In the upper part of the tubes the skeletals have thick-walled, obtuse or more rarely fusiform endings. Where they grow down the length of the tube they are about 5 μ wide, unbranched and have rather thin brown walls and a very wide lumen. However, toward the mouth of the tubes the tissue is entirely composed of thin-walled actively growing hyphae. No cystidia were seen but spores are abundant, 6,2—8,0 × 4,5—6,0 μ, smooth, hyaline, varying in shape from broadly elliptical to ovate.

This fungus is best assigned, at least for the present, to the genus *Amauroderma* (Pat.) Torrend, as *Amauroderma salisburiensis* (Van der Byl) Reid, comb. nov.

Polyporus schreuderi Van der Byl in S. Afr. J. Sci. **21**, 311-312, 1924. (Figs. 18*a–b*; 40.)

"Pileus sessile, sometimes laterally connate, applanate or horseshoe shaped, at times attenuated at attacheent, 0,9 cm—2 cm × 2 cm × 0,4 cm; surface zoned, roughened by radial furrows, creamy with brownish tint, finely tomentose to subglabrous; context creamy, 0,5 mm—2,5 mm, firm; tubes 2 mm —3mm long; mouths irregular, angular, brownish cream in herbarium specimens, 2—3 to the mm, dissepiments thin, breaking up; spores hyaline, 3 μ × 5 μ.

On dead stump, Knysna (720).

This fungus comes in 82 of Lloyd."

The type material in STE, collected in January, 1922, consists of small, seemingly more or less dependent brackets—the pilei having apparently grown downward from the point of attachment. They are subglabrous and resemble *P. rubidus;* the surface is buffy-brown with darker zones. The flesh, 0,5—2,5 mm thick is lignicolorous, the tubes are up to 3 mm long and the small pores, which are concolorous but show some evidence of bruising, are approximately 2—3 per mm. The context of the pileus is seemingly dimitic although one would have expected it to be trimitic, comprising clamp-bearing generative hyphae and skeletals, 3,5—4,0 μ wide, which are subhyaline and solid; binding hyphae could not be demonstrated. Basidia are more or less ovate at first measuring 13,0 × 7,2 μ, and the spores, which are scanty and a little uncertain, are hyaline, elliptical, 8 × 3 μ.

The affinity of this fungus would seem to be with such species as *P. rubidus* Berk. and *P. albo-cervinus* Berk. etc. but these all have a trimitic hyphal structure.

Polyporus transvaalensis Van der Byl in S. Afr. J. Sci. **22,** 169, 1925.

"Plants annual, sessile, with a strong subiculum; pileus coriaceous, dimidiate, laterally connate, 2 cm to 5 cm by 0,7 cm by 0,4 cm; upper surface deep cream to tan-coloured, velvety tomentose to scabrous; context ochraceous, 3 mm to 4 mm thick, soft; tubes up to 2 mm long, mouths irregular, angular, 1 to 3 to the mm, dissepiments thin, brown; spores not found.

Collected by the author on rotten wood in the Haenertsburg distr., Transvaal (1475)."

The type material in STE consists of old sporophores in very poor condition which were collected in July, 1923. The fruitbodies are widely effused, and easily separable from the substrate, having curled away in places during drying. They are of very light weight and consist of small but elongated, reflexed brackets, measuring 2,0 cm from the margin to the point of attachment, with an obtuse margin. The surface, which is ochraceous-buff or darkish brown to grey brown, is slightly roughened with ropes of hyphae, evidently formed from the flattening of a weathered tomentum. On the effused part of the fructification the pores are open and elongate. The flesh, 3—4 mm thick, which is very soft and with the texture of cotton wool, is concolorous with the pileus. Anatomically the context appears to be dimitic consisting of clamp-bearing generative hyphae and skeletals, 4—5 μ diam., which are subhyaline with thickened walls although retaining a wide lumen. No hymenium is present and spores were not seen.

The affinities and systematic position of this fungus are not clear.

Polyporus trichiliae Van der Byl in S. Afr. J. Sci. **18,** 262, 1922.

"Plants annual, sessile, or effused reflexed; pileus dimidiate, conchate, densely imbricate, laterally connate, 0,5 cm to 3 cm by 1 cm to 2 cm by 0,1 cm to 0,9 cm; rigid and brittle when dry; surface creamy white to ochraceous, finely tomentose, rugulose; context 1 mm to 4 mm thick, creamy white, firm, corky; tubes 1 mm to 3 mm long; mouths minute, subrotund to irregular, 5 to 6 to the mm, edges thick becoming thin, chamois coloured to cinnamon; spores hyaline, smooth, ellipsoid, 5,5 μ to 7 μ by 3,7 μ; hyphae hyaline, simple, 3,6 μ to 4 μ.

Distribution.—Known from a single collection on *Trichilia emetica* at Durban by the writer. (Type in Natal Herbarium, P. v. d. B., No. 897.)."

The material in STE, comprising Nos. 608, 572 and 129, all collected on the type host by Van der Byl at Durban, is *Xylodon subiculoides* (Lloyd) Reid. An unusual feature shown by collection No. 608 is that the brackets arise from a thick boss of tissue (—6 mm). Owing to the uniformity of these gatherings it seems fairly safe to assume that the type material also represents *X. subiculoides.*

See also under *Polyporus acaciae* Van der Byl.

Polyporus vicinus Lloyd in Mycological Writings **7**, 1331, 1924 (Fig. 3055). (Fig. 23*a–c*.)

[non *P. vicinus* Bres. in Ann. mycol. **18**, 35, 1920.].

"Pileus dimidiate, 3—4 inches in diameter 1,5—2 cm thick. (Plants sessile or effused-reflexed, at times imbricate, rarely substipitate; pileus dimidiate 10 cm × 7 cm—9 cm × 0,8 cm —2cm;) .Surface dull, white, or spotted with a reddish stain. (Surface white, at times spotted reddish black in older parts;). Context white, drying very hard and ligneous. (Context white, firm, corky, 0,6 cm thick;). Pores minute, isabelline, distinct from context as to color. Pore mouths adustus. (Tubes 1 mm—2 mm long, yellowish; mouth 4—5 to the mm; dissepiments thick, entire, greyish to dark;) .Spores globose, large, 8—12 mic., hyaline, smooth. (spores hyaline, smooth, globose, 8 μ—12 μ.).

(Collected in Natal. 1153 and 1154).

This is another one of that confusing white Apus section. We would enter it in Section 89 although its relations are close to *Polyporus lignosus*. The globose spores and a suggestion of its pale color indicate its affinities."

According to Stevenson & Cash (1936) specimen 1153 is the type of the species. This gathering was studied in STE in part and consists of a large sporophore at least 10 cm wide, but it has become very enrolled in drying. The surface is creamy-white, minutely felty-pruinose (not tomentose), and smooth to undulating-knobbly. One fruitbody has developed a red-brown almost waxy or horny cuticle and is only white-pruinose behind. The flesh is lignicolorous, and about 0,5 cm thick. The tubes, up to 1 cm deep behind are only 1 mm deep near the margin; the pores, about 5 per mm, scarcely visible to the naked eye, are greyish-ochre. Anatomically the flesh is trimitic, comprising dextrinoid skeletal hyphae, 4—5 μ diam., which are thick-walled, almost solid, glassy and destroyed in 10% KOH; and scanty binding hyphae, 2,0—2,5 μ diam., which are not densely coralloid but show more lax branching; generative hyphae were not demonstrated but will probably be found to bear clamp-connexions. The spores, 5,75—6,0 (—9,75) × 5,75—6,0 μ, which are scanty, vary in shape from globular to pip-shaped, and have a strongly dextrinoid wall. There are very abundant chlamydospores lining the tubes which are mostly globular but rarely obpyriform with a distinct apical papilla; they have a thickened dextrinoid wall and measure 9—13 μ diam. when globose or 11,75—19,2 × 9,3—11,2 μ when obpyriform.

Collection No. 1154 is probably conspecific but the fruitbody is reduced behind to a stipe-like base. This specimen has larger basidiospores in the hymenium which are ovate or pip-shaped, (6,2—) 8,0—9,5 × 5,0—7,0 μ, with a thickened, hyaline, dextrinoid wall. These spores would seem to belong to the fungus in question since they appear to be in groups of four.

This fungus is identical with *Fomes mesoleucus* Petch, which was described in 1925 from a single collection on a tree stump in December 1923 at Wariapolla, Ceylon. Another synonym is *Polyporus nigro-applanatus* Van der Byl described in November 1924, just a month after Lloyd published his *P. vicinus*. However it does not appear to belong in any of the known genera and hence the new genus *Vanderbylia* Reid is proposed to accommodate it.

Vanderbylia Reid, gen. nov.

Sporophora sessilia, crassa, ungulata, dimidiata, effuso-reflexa raro basin versus indistincte substipitata. Contextus albus, vel lignicoloratus, in sicco durus vel ligneus, trimiticus; ex hyphis valde dextrinoideis compositus. Cystidia raro praesentia. Sporae globosae, ovatae vel guttiformes, muris crassis et valde dextrinoideis. Chlamydosporae plerumque praesentes.

TYPUS: *Vanderbylia vicina* (Van der Byl) Reid, comb. nov.

The type material of *F. mesoleucus* in K (Fig. 24 a–b) is very similar in all respects to the Natal collections, but the chlamydospores, which become almost black in Melzer's solution, appear to be more mature. They are alike in size and shape but appear to be slightly ornamented in a manner somewhat suggestive of *Ganoderma* spores.

In addition to *V. vicina* there is a second species belonging to the genus *Vanderbylia* which occurs in tropical Africa, i.e. *V. ungulata* Reid, sp. nov. which is described below.

Vanderbylia ungulata Reid, sp. nov. (Fig. 25 a–b.)

Sporophora sessilia, crassa, primo dimidiata tandem ungulata, usque 37 cm lata, radialiter 22 cm et 9 cm crassa; superficies superior sub lente minute coacta, albida, in sicco ochraceo-bubalina, cuticula usque 2,5 mm crassa glabra atro-brunnea dura cornea tandem cooperta; cuticula vetustate fissurata et in areolas minutas omnino disrupta. Contextus usque 3 cm crassus, vel bubalinus vel cinnamomeo-brunneus. Tubuli stratosi, stratis usque duodecim; quoque strato usque 8 mm crasso. Pori 4—5 per mm, rotundati, ochraceo-bubalini. Hypharum systema trimiticum; hyphae skeletales, 2,5—3,5 μ diam., dextrinoideae, muris pallide brunneis, crassiusculis sed lumine distincto instructae; hyphae ligantes, 1,5—2,0 μ diam., dextrinoideae, laxe ramosae; hyphae generatoriae non visae. Basidiosporae vel chlamydosporae abundantes, 5,0—6,0 (—7,5) μ diam., globosae vel ovoideae, pallide brunneae, dextrinoideae, poris germinatoriis 2 vel usque 4 instructae.

TYPUS: On *Pterocarpus angolensis*, Nachingwea, Tanzania, coll. B. Boaler, 5 Sept. 1962.

Sporophores sessile, at first dimidiate, becoming ungulate and then up to 37 cm wide, 22 cm from point of attachment to the acute or very thick and obtuse margin, and up to 9 cm thick; upper surface very minutely felty under a lens, whitish when fresh, ochraceous-buff when dried, but soon developing a hard, dull blackish-brown, glabrous, horny cuticular layer from behind, which quickly envelops the entire surface, except sometimes for the narrow, actively growing marginal zone. The cuticle is often very thick, up to 2,5 mm in old specimens, but it is then frequently conspicuously fissured and at the same time completely disrupted into small areolae. Old specimens are also concentrically sulcate. The context, up to 3 cm thick, varies in colour from buff to pale cinnamon-brown. The hymenophore is ochraceous-buff and may be poroid to the extreme edge or there may be a broad sterile marginal zone devoid of pores; tubes strongly stratified with up to 12 strata, each stratum being up to 8 mm thick; pores 4—5 per mm, rounded, with thick dissepiments. Hyphal structure of the context trimitic, consisting of long, unbranched dextrinoid skeletal hyphae, 2,5—3,5 μ wide, which taper to a very long, narrow, hyaline, thin-walled apex, but otherwise with very pale brownish thickened walls, but retaining a fairly wide, septate lumen; and scanty dextrinoid binding hyphae, 1,5—2,0 μ wide, which exhibit rather lax branching; generative hyphae not actually seen. In the tubes the hyphae are more intricately branched, difficult to separate, and mostly about 2 μ wide. Hymenium lacking although there are abundant pale brownish, dextrinoid spores, 5,0—6,0 (—7,5) μ diam., which may be chlamydospores lining the walls of the tubes. They are thick-walled, vary in shape from globose to ovoid and have at least 2 and sometimes up to 4 germ-pores which appear as bright hyaline spots.

Collections examined from: Tanzania: on living *Pterocarpus angolensis*, 3 m above the ground, Sakililo, Rukwa Rift Valley, coll. S.B. Boaler [Gibson No. 803 and 803D], 15 Dec. 1961; On living *P. angolensis*, Iringa Road, Chimala, near Mbeya, coll. S. B. Boaler (No. 1059), March 1963; On *P. angolensis*, 50 cm above the ground, Nachingwea, coll. S. B. Boaler, 5 Sept. 1962 [TYPUS]. Zambia: on *Afrormosia angolensis*, Mpata Gorge, coll. D. B. Fanshawe (No. 46), 6 Sept. 1963; On *Afrormosia*, Kabompo, coll. D. B. Fanshawe (No. 76), 10 Sept. 1964; On *P. angolensis*, Luapula Valley, coll. J. Mackenzie, 1963. Malawi: On *A. angolensis*, Njuli Tea Estate, Cholo, without details of collector, No. 1568.

Judged from available data *V. ungulata* differs from *V. vicina* in having more robust fruitbodies with a very thick cuticle, buff to pale cinnamon-brown flesh, narrower skeletal hyphae which retain a wide lumen and take longer to show the dextrinoid reaction, and different chlamydospores with 2—4 germ-pores. In addition *V. ungulata* has a more tropical distribution and is seemingly restricted to hosts belonging to the *Leguminosae*.

Other species which belong to the genus *Vanderbylia* are *V. hornoderma* (Mont.) Reid, comb. nov. [*Polyporus hornodermus* Mont. in Annls Sci. nat. Series 4, **5**, 368, 1856]; *V. latissima* (Bres.) Reid, comb. nov. [*Fomes latissimus* Bres. in Annls mycol. **8**, 588, 1910]; and *V. fraxinea* (Bull. ex Fr.) Reid, comb. nov. [*Polyporus fraxineus* Bull. ex Fr. in Systema Mycologicum **1**, 374, 1821].

V. hornoderma is easily recognized by the absence of encrusted cystidia in the tubes and by its very characteristic elongated narrow pip-shaped, clavate, bottle-shaped or flask-shaped dextrinoid spores, 6,0—8,0 × 3,5—4,0 μ, which are not seemingly apiculate and have a distinct pore at the narrow end and a smaller one at the broad end; these pores show as bright hyaline spots in certain views.

Lowe (1957) used the name *Fomes ligneus* (Berk.) Cooke for this fungus and he was followed by Wright (1964) who noticed the dextrinoid reaction of both spores and hyphae and transferred the species to *Poria* s. str. as *Poria lignea* (Berk.) Wright. However, examination of the type of *F. ligneus* in K has shown that although sterile, it is a quite distinct species unrelated to *F. hornodermus*, since it has non-dextrinoid hyphae. Lowe (loc. cit.) also kept *F. sulcatus* (Cooke) Cooke separate from *F. ligneus* sensu Lowe [i.e. *F. hornodermus*] on the basis that it had context hyphae mostly 2—4 μ diam., whereas in *F. ligneus* sensu Lowe they are 4—8 μ. In fact the context hyphae of the type specimen of *F. sulcatus* are up to 6 (—7) μ diam. Hence *F. sulcatus* is best relegated to synonymy under *V. hornoderma*.

V. latissima (Fig. 27 a–b) is extremely similar to the previous species, differing only in the narrower hyphae, 2,5—3,5 μ wide, and presence of thick-walled clavate or obpyriform, apically encrusted, dextrinoid cystidia. It is found in tropical Africa, India, and the Pacific Islands (Java, New Guinea)—many of the collections having been referred to *V. hornoderma*. Just how reliable the presence or absence of cystidia is as a taxonomic character remains to be seen. However of 5 South American gatherings of *V. hornoderma* none was found to have cystidia whereas out of 10 collections so-named from Africa, India and Malaysia, 7 showed cystidia in varying abundance. It is not clear whether the remaining 3 gatherings represent true *V. hornoderma* or whether they represent *V. latissima* in which cystidia are so scanty as to have escaped detection.

V. fraxinea (Fig. 26 a–b), which occurs in Europe and North America, has thick-walled, strongly dextrinoid, oval or pyriform spores, measuring 6,0—6,75 × 4,2—5,75 μ, with an apical thin-walled area or pore, at least in some of the spores. These spores are basidiospores since they have a definite apiculus and have been seen attached to basidia. There is considerable uncertainty regarding the specific name of this species, see Donk (1971).

Another fungus which may belong in *Vanderbylia* is *Fomes mundulus* Wakef. from Rhodesia, since this has a dark blackish, some what rimose crust and strongly stratified tubes. Further, the flesh is largely composed of dextrinoid hyphae but the spores although broadly elliptical or ovate and dextrinoid are distinctly truncate at one end. *Heterobasidion annosum* (Fr). Bref. also has dextrinoid hyphae but the minutely roughened, very broadly elliptical or ovate spores are non-dextrinoid.

Trametes albotexta Lloyd in Mycological Writings **5**, Mycological Notes No. **44** p. 614, 1916. [Fig. 868]. (Fig. 19.)

"Pileus sessile, 2—3 × 4—5 inches, an inch thick, surface reddish brown, dull, matt, soft. (Pileus sessile, dimidiate, 8 cm to 10 cm by 5 cm by 1,4 cm to 4 cm; surface reddish-brown, soft to hard, rugulose, tomentose to subglabrous, smooth or scabrid to touch;) Context reddish brown, thin, soft. (context 0,4 cm to 0,7 cm, firm, tough, corky, reddish-brown;). Pores rigid, small, round, an inch long. Pore tissue white, contrasting with the brown hymenium so that a section is variegated. (tubes 0,5 mm to 1,5 mm long, tissue white with reddish-brown hymenium; mouths subrotund to angular, 2 to 3 to mm, edges entire or produced into teeth, white changing to yellowish and dark brown;). Cystidia none. Spores pale brown, small, ellipitcal-subglobose, 3—4 × 4—5. (Spores pale brown in mass, subglobose 3,7 μ by 5 μ; hyphae, 4 μ to 5 μ.).

The coloration of the surface, pore surface and context is reddish brown, the tissue of the pores white. I know of no other *Trametes* or polyporoid with this peculiar color pore contrast. The pale colored spores might be the basis for a "new genus", but I think that would be "inutile".

Van der Byl added "*Distribution.* On dead *Podocarpus* sp. in Hlatikulu Forest (Type in Natal Herbarium, No. 181). Collected also by Miss A. V. Duthie.

The surface and context colour are peculiar and would aid in the recognition."

The specimen in STE bears the following data "On *Podocarpus* sp., Eastern Cape, No. 312", but is clearly conspecific with the type judged from the description. It has a very dark surface with alternating dark brown tomentose zones and black glabrous bands giving the brackets very much the appearance of *Ischnoderma resinosum* (Fr.) Karst. The flesh, 4—8 mm thick, is lignicolorous; the pores are brownish and the tubes are lined with a brownish hymenium. Anatomically the flesh is monomitic comprising glassy generative hyphae, up to 8 μ diam., with clamp-connexions at the septa; these hyphae have a central thread of contracted contents when examined in 10% KOH. There are also coloured conducting organs with brown contents; these are scanty and were seen mostly near the cuticle. The hyphae of the surface tomentum are brown. The spores, 4,2—6,0 × 2,5—3,0 μ, are hyaline, elliptical and appear glassy and refractive.

This species appears to belong in the genus *Ischnoderma* Karst. and is hereby transferred to this genus as *Ischnoderma albotextus* (Lloyd) Reid, comb. nov. It differs from *I. resinosum* in the broader elliptical, non-allantoid spores.

---

*While this paper was in press Ryvarden published an article (*Norweg. J. Bot.* **19**: 141–143, 1972) in which he discussed the generic name *Perenniporia* Murr. and he would clearly have included in that genus those species of *Vanderbylia* listed above. What he has not demonstrated is whether Murrill's interpretation of *Poria unita* was the currently accepted one. This is essential since *P. unita* has been selected as the type species of *Perenniporia*. Interpretation of this genus must therefore depend on Murrill's concept of *P. unita* irrespective of how *P. unita* is itself typified. I hope to return to this question in the sequel to this paper.

It should be noted that Doidge (1950) cites a number of additional collections on various hosts.

Trametes griseo-lilacina Van der Byl in S. Afr. J. Sci. **18**, 283, 1922. (Fig. 20.)

"Plants annual, sessile; pileus coriaceous to corky, applanate, imbricate, dimidiate to laterally extended, 3 cm to 10 cm by 2,5 cm to 4 cm by 4 cm to 0,8 cm; surface concentrically sulcate, tomentose to glabrous, fasciculate setose, rugulose, scrupose, grey to greyish fawn; margin acute, tomentose on upper surface; context corky, firm, fibrous, lilac-mauve to mouse coloured, 3 mm to 4 mm; tubes 0,5 mm to 2,5 mm long, lighter than context; mouths unequal, irregular, round to elongated and angular, 2 to 3 to the mm; edges thick, entire, concolorous, lilac-mauve; spores hyaline, smooth, oblong, 3,7 μ by 7,5 μ; hyphae simple, 3,5 μ to 6 μ.

Distribution.—Single collection by Geo. Hobbs on railway sleeper at Illovo River, Natal. (Type in Natal Herbarium, No. 921.)

The context colour and colour of pore mouths is peculiar and should aid in the identification of the fungus. The fungus is evidently related to the Australian *Trametes lilacino-gilva* (Berk.) Lloyd, but with rougher surface and irregular pore mouths."

The specimen at STE, also collected on a railway sleeper, at Durban bears the No. 1060 [yet another specimen on a railway sleeper from Durban bears the No. 150]. Collection No. 1060 has the context of the pileus seemingly rudimentarily trimitic. The generative hyphae, 2,5—3,0 μ, are hyaline and bear clamp-connexions; the skeletals, 3,5—7,0 μ, have thickened red-brown walls but retain a wide lumen. It is difficult to be certain whether there are true binding hyphae but there are solid, kinked, hyaline, laxly and sparingly branched hyphae present. The spores are hyaline, elliptical, 6,0—7,75 × 3,0 μ.

Trametes ochrolignea Lloyd in Mycological Writings **5**, Letter No. 63, p. 10, 1916.

"(Plant forms a hard flat, woody and unseparable mass, 2 mm thick, on the wood of which it grows, the periphery of this mass is continued into the pilei or the pilei develop separately from it;). Pileus woody, sessile, 4 to 6 inches in diameter, an inch thick (Pilei subcircular 6 cm to 10 cm diam., by 0,7 cm to 2 cm thick;) Surface uneven, not zoned, reddish brown [Roods Brown, Ridgway], minutely pubescent. (Surface uneven, tuberculate, reddish brown, more yellow towards margin, tomentose, with a few concentric furrows;) Context hard, woody, yellow (Context 3 mm to 8 mm thick, corky to hard and woody, yellow, shining;). Pores round, or elongated, medium, somewhat irregular. (Tubes about 1 mm long; mouths round to elongated, irregular, 2 to 3 to the mm; edges thick or thin, somewhat lacerate, yellow;). Spores 3 × 6, cylindrical hyaline, smooth. (Spores hyaline, smooth, 3 7 μ by 7 μ; hyphae 3 μ by 7 μ diam.).

Trametes Zimmermanni, a species named in MSS at Berlin, and *Trametes ochro-flava* of Brazil, which is really a *Fomes*, are the only other species known to me with yellow context. Although the hymenial configuration is so different, with same texture, context color and spores, *Daedalea Dregeana*, *Daedalea Eatonii* and *Tremetes ochrolignea* are for me variations of the same species. Zones of annual growth and indistinct pore strata are seen in *Trametes ochrolignea* so that it is really a *Fomes*."

Van der Byl added the following data:—'*Distribution.*—Found at Durban, Natal, on rotten log. Distinguished from *P. occidentalis* by its habit of growth, more tuberculate surface and context in older part and part above the substratum being extremely hard and woody. (Cotype in Natal Herbarium, No. 226).'

The specimen in STE, although from Durban, bears the number 106, and whilst not the type of the species, is clearly conspecific with it. This specimen is merely a thick woody form of *Coriolopsis* (*Polystictus*) *occidentalis* (Kl.) Murr.

Trametes salebrosa Van der Byl in S. Afr. J. Sci. **21,** 313, 1924. (Fig. 38.)

"Pileus perennial, sessile, woody, decurrent at attachment, dimidiate, 8 cm × 4 cm × 0,7 cm—2 cm; surface azonate, rough with stiff projections, greyish; context firm, dark reddish brown, shining and velvety in appearance, 3 mm—7 mm thick, tubes 1 mm or less long, mouths subrotund to angular, 3—4 to the mm; setae absent.

Collected at Knysna (1063).

This fungus resembles *Polyporus gilvus* externally, but has darker context and no setae."

The type material, collected in January 1922, is represented in STE by half a sporophore measuring 5,5 cm in length and 4,5 cm from the point of attachment to the margin. The upper surface is dark brown and scrupose as in *Phellinus scruposus;* the flesh, 1 cm thick behind, is rich brown and dark silky-fibrillose; the tubes are 1 cm long and the pores are 2—3 per mm. Anatomically the flesh is trimitic, comprising brown skeletal hyphae, —8 μ diam., with very thick walls but retaining a wide septate lumen, and coralloid binding hyphae, 2—3 μ diam., which are also thick-walled with a distinct septate lumen. These binding hyphae, which form dense clumps, arise from hyphae very like the skeletals except that they bear clamp-connexions. No hymenium or spores were seen.

This fungus is closely related to *Coriolopsis badia* (Berk.) Murr. and *Coriolopsis strigata* (Berk.) Reid and belongs in the genus *Coriolopsis* Murr. It is hereby so transferred as *Coriolopsis salebrosa* (Van der Byl) Reid, comb. nov.

Trametes subflava Lloyd in Mycological Writings **5**; Letter No. 66, p. 8, 1917. (Figs. 21 a–b; 39.)

"Entire plant (including context) unicolorous, about maize yellow with pore mouths somewhat darker, ungulate, sessile (Pileus sessile, ungulate, subtriquetrous, 10 cm by 14 cm by 8 cm; surface soft, velvety-tomentose, light yellow). Context light and stupose (context 0,5 cm to 2 cm thick, yellow, soft, tough, tow-like; (Pores very minute, little developed. (tubes 1 mm or less long; mouths subrotund 4 to 6 to the mm; edges thin, entire, darker yellow than the context shining;) Cystidia with capitate, rough heads. Spores (if correctly seen) globose, 4—5 mic. (Spores hyaline. globose, 4 μ diam.).

We received this before from Mr. Van der Byl (No. 79) and at the time referred it, with doubt to *Fomes connatus*, which is somewhat similar in color and has the same spores and peculiar cystidia. An additional collection, however, which is the same exactly as the first, and which differs from *Fomes connatus* in manner of growth, and particularly in its soft, punky context, convinces us that we were wrong, and the only thing to do is to name it *Trametes*, where it belongs.

It reminds one of *Fomes floccosus*, of Ceylon (which is perhaps a better *Trametes*) as to light context, and of *Fomes connatus* as to color, cystidia, and spores."

Van der Byl added the following data "*Distribution.*—Found on live *Celtis kraussiana* by J. D. Keet in Eastern Cape Forest Conservancy. (Cotype in Natal Herbarium, No. 388.)"

The specimen examined in STE bears the following data "Eastern Cape Province, No. 267". However, there is again some confusion involving the numbering of the specimens. Doidge (1950) cited No. 267 under *T. subflava* with the additional information "on *Celtis kraussiana* Bernh., on living trees, Eastern Cape, Keet (v. d. Byl 267)." This ties up with Van der Byl's published data quoted above, with the exception that he quoted the number of this specimen in the Natal Museum as No. 388. In any event specimen 267 in STE is clearly conspecific with *T. subflava* as described by Lloyd.

It consists of part of a large ungulate, light-weight sporophore measuring 10 cm in thickness and 10 cm in width at the base, across the hymenophore. The material is now entirely buff-coloured, but the minute pores appear either brown or buff according to the incidence of the light which causes them to glance. Anatomically the flesh is monomitic consisting of generative hyphae, 2,5—4,0 μ wide, with distinct, slightly thickened pale straw-coloured walls. These hyphae are septate, but devoid of clamp-connexions. In the hymenium there are small, apically encrusted, capitate cystidia, 18,75 μ long, 6—8 μ wide (including the encrustation). The spores, 2,5—3,2 μ diam., or 3,2—4,0 × 2,2—3,2 μ, are thin-walled, hyaline and vary in shape from globose to ovate to very broadly ellipti. cal.

This fungus belongs in the genus *Oxyporus* (Bourd. & Galz.) Donk and is hereby transferred to this genus as *Oxyporus subflavus* (Lloyd) Reid, comb. nov.

Trametes tomentosa Van der Byl in S. Afr. J. Sci. **18,** 285, 1922.

"Plants effused-reflexed, annual; pileus applanate, coriaceous 9 cm by 7 cm by 0,1 cm to 0,4 cm; surface with a few faint furrows, rugulose, covered with a soft cinnamon brown tomentum; margin thin, undulate; context 0,5 mm to 2 mm thick, azonate, corky, shining, straw yellow; tubes 0,5 mm to 1,5 mm long, elongated on decurrent part, concolorous with context; mouths subrotund to irregular, 2 to 3 to the mm; edges thick towards margin, thin in older parts, entire to somewhat lacerate, yellow-buff; hyphae 4 μ to 5 μ diam.

Distribution.—Found on dead logs at Durban, Natal, by the writer.

The plant is in its context colour and colour of pore mouths close to *P. occidentalis*, Kl., from which it differs in the finer tomentum. The hairs are longer and finer and the surface has a feeling of plush. (Type in Natal Herbarium, P. v. d. B., No. 836.)".

There is a specimen so named from Durban by Van der Byl, in STE, bearing the No. 707. This agrees with the original diagnosis and represents a large, thin, flaccid form of *Coriolopsis* (*Polystictus*) *occidentalis* (Kl.) Murr.

Trametes varians Van der Byl in S. Afr. J. Sci. **18,** 281–282, 1922. (Fig. 22.)

"Plants effused-reflexed to largely resupinate; pileus corky, rigid, dimidiate, imbricate, at times conchate, 2 cm to 4 cm by 0,7 cm to 2 cm by 0,5 cm to 1 cm; surface azonate, minutely pubescent, frequently somewhat tuberculate, at times rugulose and scabrid, creamy white becoming ochraceous to somewhat fuliginous; margin acute, cream coloured or fuliginous; context 1 mm to 2 mm thick, corky, creamy white; tubes 1,5 mm long, discoloured within; mouths angular to elongated, irregular, approximating 4 to the mm; edges entire, creamy white to greyish and greenish drab; hyphae 7,24 μ diam.

Distribution.—Recorded from Eastern Cape Forest Conservancy. (Type in Natal Herbarium, No. 151.)

Differs from *T. glabrescens* in habit, surface and pore-characters."

There is in STE a specimen from Eastern Cape Province bearing the No. 527. This comprises very nondescript, thin, effused, slightly pileate fruitbodies. The pileate portion, 0,5—1,0 mm, from the substrate to the margin, has a minutely tomentose, uneven or slightly scrupose surface, which is entirely greyish-buff. The pores, 2—3 per mm, are angular with thin dissepiments. Anatomically the context, which contains a fair amount of oily substance as seen when mounted in 10% KOH, comprises thin-walled clamp-bearing generative hyphae and glassy skeletals, 5 μ wide, which look as though they may have been affected by the KOH solution. No binding hyphae were seen. The spores, 4,0—5,0 × 1,75—2,0 μ, were thin-walled, hyaline and elliptical.

This fungus appears to represent young fructifications of a *Coriolus* Quél., which have not yet developed any binding hyphae.

HYDNACEAE

Hydnum longospinosum Lloyd *apud* Van der Byl in S. Afr. J. Sci. **25,** 185, 1928. [First published by Lloyd in Mycological Writings 7, 1186, 1923 as a nomen nudum.]. (Fig. 32 a–c.)

"Pileus sessile, dimidiate, imbricate, firm and rigid when dry, 3—4 cm long, 1—2 cm broad; surface maize yellow, velvety tomentose, tuberculate, indistinctly sulcate; context maize yellow, 1 mm thick; teeth dark fawn, slender, up to 5 mm long, 250—440 μ diam. at base. On old wood. Exact locality unknown but probably Knysna.

Lloyd published the name of this fungus in 1923, but a description has, to my knowledge, thus far not been published."

This name was introduced as a nomen nudum by Lloyd in 1923, in a list of determinations of fungi sent to him for naming by Van der Byl. However, according to Stevenson & Cash (1936) there is no material of *H. longospinosum* in the Lloyd Herbarium and it therefore seems probable that the collection in STE bearing the following data—Knysna, 1922. Type 775.—represents the only remaining portion of the original gathering. It consists of small, imbricate brackets with a smooth, tomentose surface. The hymenophore is densely spinous; the spines being up to 6 mm long, thin, pointed (as in *Steccherinum* spp.) and fairly dark brown. Anatomically the spines are dimitic, consisting of long, thick-walled, almost solid skeletal hyphae, 4,5 μ wide, but with a distinct lumen expanding toward the slightly enlarged apex, which is for the most part thin-walled and sometimes secondarily septate; and thin-walled, clamp-bearing generative hyphae, 2,5 μ wide. There are no encrusted cystidia, although it is just possible that there may be some thick-walled, poorly differentiated elements in the hymenium. Basidia are produced in tufts along the generative hyphae but spores are very scanty. They are, 3,5 × 1,5 μ, small, hyaline and elliptical, but it is not absolutely certain that these belong to the fungus in question.

This fungus, illustrated by Van der Byl (1934), reminds one of *Steccherinum rawakense* (Pers. *apud* Gaud.) Banker, which has been very fully described by Maas Geesteranus (1964).

Hydnum pulchrum Lloyd in Mycological Writings **6**, 918, 1920 as *H. pulcher* (Fig. 1641).

"The section of *Hydnum* with colored spores is rare. No species occurs in Europe or the States and this is the fifth one that has come to my notice.

(Fruitbody sessile, pileate). Pileus dimidiate, thin, probably white when fresh, but reddish when dried (Pileus dimidiate, fleshy-leathery, thin, flexible, 5 × 9 cm, upper surface glabrous, sandy-, red-, or yellowish-brown in dried specimens—apparently white in fresh material. Flesh pale or colourless, 1—2 mm thick.). Teeth short, about 1 mm, blunt, dark reddish-brown when dried. (Spines about 1 mm long, blunt, sandy-brown to dark reddish-brown in dried specimens, apparently somewhat gelatinous; trama pale, hymenium much darker.) Cystidia none. Spores abundant, 3,5 × 4,5, smooth, colored. (Spores smooth, coloured, 3—4 × 4—6 μ.)

There is another species of this section in South Africa (cfr. Myc. Notes, p. 597) which differs much from this. Excepting in the colored spores this reminds one of *Hydnum pulcherrimum*. A section shows the teeth of a subgelatinous nature, a feature unknown to me in other Hydnums. The trama is pale, compact and the hymenium much darker color."

Van der Byl added that it grew "on dead stump; Durban, Natal (J. B. Leslie)."

According to Stevenson & Cash (1936) the type collection is that bearing Van der Byl's number 881. The specimen so-named in STE, collected by J. B. Leslie at Durban, bears the No. 534. It is in poor condition, consisting of a number of pilei. The context is monomitic, comprising thin-walled, mostly collapsed hyphae, about 6 μ wide, which seemingly lack clamp-connexions. The spores, 4,5—6,0 × 3,0—3,5 μ, are yellowish-brown and have a distinct wall.

This fungus belongs in the genus *Gyrodontium* Pat. It should be noted that Maas Geesteranus (1966) has published a full account of the type material preserved in the Lloyd Herbarium, and is of the opinion that it is identical with *Gyrodontium versicolor* (Berk. & Br.) Maas Geesteranus.

Odontia knysnana Van der Byl in Annale Univ. Stellenbosch **12,** A1, 9, 1934. (Fig. 29.)

"Fruitbody resupinate, adnate, thin, becoming cream, confluent 1—3 × 3—10 mm; margin byssoid. Context hyaline, 120—220 μ thick; hyphae 3—4 μ thick, thin-walled with clamp-connexions, smooth or ornamented with crystals, running parallel to the upper surface, branched, lax, dense and indistinct in the sybhymenium. Teeth short, granular, 6—8 to the mm, tips of the teeth fimbriate (fimbriae only visible with the help of a hand lens.) Spores colourless, 3 × 5—6 μ. Cystidia about 4 μ thick.

On rotten wood. Knysna." [From the Afrikaans].

The material in STE, which would seem to be the type collection, was gathered at Knysna, January 1924, and bears the No. 1332. It consists of small-scattered, resupinate, creamy-white patches with a byssoid, but non-rhizomorphic margin. The teeth are short, crowded and almost Grandinioid. Anatomically the context is monomitic, comprising clamp-bearing generative hyphae, 3 μ wide, with thickened walls although retaining a wide lumen; the clamp-connexions are small and inconspicuous. Many of the hyphae in the axes of the teeth are covered with amorphous granular material. In the hymenium there are long pointed cystidioles, up to 40 μ in length, in which the basal portion may become slightly thick-walled. The spores, 5—6 × 3 μ, are rather broadly elliptical.

This fungus belongs in the genus *Hyphodontia* J. Erikss. and is very reminiscent of *H. crustosa* (Pers. ex Fr.) J. Erikss. It is hereby transferred to this genus as *Hyphodontia knysnana* (Van der Byl) Reid, comb. nov.

CLAVARIACEAE

Clavaria durbana Van der Byl in S. Afr. J. Sci. **29,** 322. 1932. (Fig. 30.)

"Fruitbodies caespitose, branched, small, flesh-coloured, 2,5 cm high, 1,5 cm broad. Stalk 2 mm thick, 6 mm long. Branches crowded, cylindrical or flattened. Spores oblong, rough, 3 × 6 μ, very pale ochre-coloured to almost hyaline.

On dead stump, Durban, Natal, by the writer.

In shape and colour this species agrees with *C. gracilis*, Pers., but it differs in the much rougher spores." [From the Afrikaans].

The material in STE, "collected on a stump, Durban, No. 661" consists of a tufted fruitbody 2 cm high and 1,7 cm wide, with densely crowded branches arising from a short main trunk, 0,8 cm high and 0,2 cm wide. The entire plant is now ochraceous; the branches are flattened at the axils but not conspicuously so elsewhere. Anatomically the flesh is monomitic, consisting of thin-walled, clamp-bearing generative hyphae, 2,0—2,5 μ diam. The spores, 4,5—5,5 × 3,0—3,5 μ, are thin-walled, hyaline or very faintly tinted, and elliptical.

In his monograph of "Clavaria and allied Genera" Corner (1950) transferred Van der Byl's fungus to the genus *Ramaria* S. F. Gray as *Ramaria durbana* (Van der Byl) Corner without seemingly having studied authentic material, yet at the same time he noted "I think it may be *Scytinopogon*". In fact it would appear to be identical with *S. angulisporus* (Pat.) Corner, which is a common tropical species.

LACHNOCLADIACEAE

Lachnocladium cristatum Lloyd in Mycological Writings **6,** 890, 1919. (Fig. 1547). (Fig. 33 *a–c*.)

"Stems branched from the base and cristated at the summit. Surface pubescent to the eye. Texture rough. Colour pale ochraceous. Hairs under the microscope hyaline, sharp, smooth, projecting about 20 mic. Spores abundant, hyaline, subglobose but irregular, 3—4 mic. I have compared all my photographs of *Lachnocladium* and find none to correspond but of course it may have a name as *Clavaria*."

The material in STE is part of the type collection, which was from Forest Hall, Knysna, coll. A. V. Duthie. The fruitbodies have the context of the main branches formed of stellate elements which are basically 4-rayed although some may be 5-rayed or have one of the rays forked near the tip. These stellate bodies have slightly thickened, pale yellowish-brown walls, and measure approximately 63—88 μ diam. at their widest point. Toward the hymenium they are smaller and less regular in shape, measuring 22,2—35,0 μ diam. In the hymenium itself there are large conspicuous gloeocystidia with oily contents; spores are abundant, 3,0—3,2 × 2,2—3,0 μ, thin-walled, hyaline, varying in shape from ovate to very broadly elliptical.

This fungus is correctly assigned to the genus *Lachnocladium* Lév.

TREMELLALES

Dacrymycetaceae

Dacrymyces australis Lloyd in Mycological Writings **6,** 924, 1920. (Fig. 34 *a b.*)

"(Fruitbody jelly-like, up to 2 cm high). Cerebriform with gyrose lobes. Color clear egg yellow (dried fruitbody dark with resinous appearance). Basidia forked. Spores 7 × 20 (16—20 × 7—8 μ), slightly curved, mostly septate (divided into 2—9 cells). It is so close to *Dacryomyces digressus* (Cfr. Myc. Notes p. 620) that we hesitate to name it otherwise, and yet when soaked out it is a very different plant. This specimen has a yellow fruiting surface borne on a pale, almost white base which may have been shielded from the light in growing. We can not say that this is a constant character, but if normal the plant could well be named *Tremella bicoloris*. This is the third species of *Dacryomyces* that simulates a *Tremella* that we know."

According to Stevenson & Cash (1936) the type number of Van der Byl's specimen which he sent to Lloyd and upon which the latter author based the species was No. 816. However when Van der Byl subsequently discussed the species in 1923 he cited only two collections Nos. 595 and 627, both from Pietermaritzburg. The material examined in STE bears the No. 595, and consists of a parchment-like horny film which is flattened in one plane but gyrose-folded at the apex. The flesh is formed of hyphae, 2,5 μ thick, which lack clamp-connexions. The spores, 19,0—20,8 × 5,0—6,0 μ, are elongated, narrowly elliptical to slightly curved and become 7-septate at maturity; the septa being rather thick; germination appears to be by the production of numerous germ-tubes.

McNabb (in litt.) has relegated *D. australis* to synonymy under *D. palmatus* (Schw.) Bres. after a study of the type specimen in the Lloyd Herbarium.

Guepinia agariciformis Lloyd *apud* Van der Byl in Annale Univ. Stellenbosch **1,** 4, 1923. [First published by Lloyd in Mycological Writings **7,** 1186, 1923 as a nomen nudum.] (Fig. 31 *a–b.*)

"Plants growing in dense groups; fruitbodies jelly-like, pale yellow, spathulate-funnelshaped, 1 cm high; hymenium distinctly folded with the folds resembling gills; spores colourless, curved, 2-celled, 19 × 4 μ.

On old wood, Pietermaritzburg (770). *G. agariciformis* is probably only an unusual growth-form of *G. spathularia;* the main difference is in the hymenium"

The material in STE, part of the original gathering No. 770, probably formed the basis of Van der Byl's description of the species and hence should be regarded as the holotype of *G. agariciformis*. It consists of expanded-flabellate fruitbodies, up to 1 cm high, with the sterile upper surface covered by a buff-coloured tomentum. The lower hymenial surface is orange, ornamented with gill-like folds which persist when the fructification is soaked up in water. The hyphae, 2,5 μ wide, have a firm, distinct wall and 'H'-connexions are frequent, but clamps are lacking. The hymenium comprises basidia up to 29 μ long, and very narrow septate paraphyses; spores, 6,5—9,5 × 2,75—3,0 μ, are thin-walled, elliptical, and become tardily 1-septate. [Van der Byl's spore measurements clearly involve an orthographic error and should read 9 × 4 μ instead of 19 × 4 μ.]

McNabb (in litt.) has relegated *G. agariciformis* to synonymy under *Dacryopinax* (*Guepinia*) *spathularia* (Schw.) Martin and undoubtedly it is little more than a growth form of the latter species. Nevertheless, it is rather striking in the field and is perhaps worthy of recognition with the status of a form ie. as *Dacryopinax spathularia* forma *agariciformis* (Lloyd *apud* Van der Byl) Reid, comb. nov.

REFERENCES

CORNER, E. J. H. 1950., A Monograph of *Clavaria* and Allied Genera. *Ann. Bot. Mem.* **1** 575.

DOIDGE, E. M., 1950. The South African Fungi and Lichens. *Bothalia* **5**: 1094.

DONK, M. A., 1971. Notes on European Polypores. 7. *Proc. K. ned. Akad. Wet.* Section C, **74**: 31–37.

FIDALGO, M. E. P. K., 1961. The Genus *Phaeodaedalea*. *Mycologia* **53**: 201–210.

HANSEN, L., 1960. Some Macromycetes from Rennell and Alcester Islands. *Nat. Hist. Rennell Isl., Brit. Solomon Isls.* **6**: 129.

LLOYD, C. G., 1925. Mycological Notes No. 74. *Mycological Writings* **7**: 1334.

LOWE, J. L., 1957. Polyporaceae of North America. The Genus *Fomes*. *Tech. Publs N.Y. St. Coll. For.* **80**: 77–78.

MAAS GEESTERANUS, R. A., 1964. Notes on Hydnums 2. *Persoonia* **3**: 171–177.

————, 1966. Notes on Hydnums. 4. *Proc. K. ned. Akad. Wet.* Section C, **69**: 323–324.

PEARSON, A. A., 1950. Cape Agarics and Boleti. *Trans. Br. mycol. Soc.* **33**: 313–314.

PEGLER, D. N., 1964. A Survey of the Genus *Inonotus* (Polyporaceae). *Trans. Br. mycol. Soc.* **47**: 183–184.

REID, D. A., 1969. Spring Fungi in Corsica. *Revue. Mycol.* **33**: 250–251.

STEVENSON, J. A. and CASH, E. K., 1936. The New Fungus Names Proposed by C. G. Lloyd. *Bull. Lloyd Libr.* **35**: 209.

VAN DER BYL, P. A., 1934. Die Suid-Afrikaanse Hydnaceae of Stekelswamme. *Annale Univ. Stellenbosch* **12**: Figs. 9–10.

VAN DER WESTHUIZEN, G. C. A., 1971. Cultural Characters and Carpophore Construction of some Poroid Hymenomycetes. *Bothalia* **10**: 137–327.

WRIGHT, J. E., 1964. Pseudoamyloid Reaction in Pore Fungi. *Mycologia* **56**: 695.